ROLL

NO. 1

THE FOLLOWING PLANS APPLY TO
MES HULL NOS. 1323/4/5 AND
MHI HULL NO. 1158 EXCEPT AS NOTED.
SEE SEPARATE INDEX AT END FOR PLANS
WHICH APPLY TO MHI HULL 1158 ONLY.

APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL								

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER

SHIP'S NO. 1325

SHIP'S NAME TILLIE LYKES

CO-ORDINATION SECTION

LIST OF MICRO FILMS FOR FINISHED DRAWINGS

LYKES REF. NO.

MITSUI DRAWING NO. 1100050

SCALE

(SHEETS WITH COVER)

GENERAL NOTE

1. MAKER'S DRAWINGS ARE NOT MADE MICRO FILMS.
2. MARK OF "*" PUT ON THE COLUMN OF "MICRO FILM NO." MEANS THAT THERE ARE DRAWINGS MADE FOR MHI HULL NO. 1158 SEPARATELY.
3. MARKS OF (cloud) IN THE DRAWINGS SHOW REVISED AREA BY APL MODIFICATION.

	FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
	1 - 3	010105	1100065	List of subcontractors	1
	4 - 13	010301	1100051	List of finished plans	1
	14 - 18	010301	1100051	List of instruction books	1
	19 - 20	010301	1100051	List of finished plans (reproducibles)	1
	21 - 30	010305	1000015	List of ship's particulars	1
	31	050101	2100035	Body plan	1
	32 - 33	070001	1102137	Docking plan	1
	34 - 39	080203	1102201	Result of official sea trial (hull part)	1
	40 - 52	080205	5110008	Result of official sea trial (machinery part)	1
	53 - 68	080208	5110009	Final inspection results for miscellaneous equipment	1
	69 - 71	090101	1100081	General arrangement	1
	72 - 76	110101	4102201	Hawse pipe and chain pipe	1
	77 - 81	110102	2101021	Shell expansion	1
	*82 - 90	110201	2101101	Double bottom in hold (fore)	1
MHI 1158	91 - 99	110201	HS-10410-F	Double bottom in hold (fore)1	
	*100 - 113	110202	2101102	Double bottom in hold (aft)	1
MHI 1158	114 - 126	110202	HS-10420-F	Double bottom in hold (aft)	1

	FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
	*127 - 134	110203	2102111	Double bottom in engine room	1
MHI 1158	135 - 142	110203	HS-20400-F	Double bottom in engine room	1
	143 - 155	110501	2100041	W.T. BHD. & trans. section (fore)	1
	156 - 169	110502	2100042	W.T. BHD. & trans. section (aft)	1
	*170 - 180	110602	2101011	Cargo hold const. (No. 1 hold)	1
MHI 1158	181 - 191	110602	HS-11410-F	Cargo hold const. (No. 1 hold)	1
	*192 - 206	110603	2101012	Cargo hold const. (No. 2 hold)	1
MHI 1158	207 - 221	110603	HS-11420-F	Cargo hold const. (No. 2 hold)	1
	*222 - 236	110604	2101013	Cargo hold const. (Nos. 3 & 4 hold)	1
MHI 1158	237 - 252	110604	HS-11430-F	Cargo hold const. (Nos. 3 & 4 holds)	1
	*253 - 265	110605	2101014	Cargo hold const. (No. 5 hold)	1
MHI 1158	266 - 278	110605	HS-11440-F	Cargo hold const. (No. 5 hold)	1
	*279 - 287	110606	2101015	Cargo hold const. (No. 6 hold)	1
MHU 1158	288 - 296	110606	HS-11450-F	Cargo hold const. (No. 6 hold)	1
	*297 - 304	110607	2102201	Side & deck const. in engine room (2nd & 3rd dk.)	1
MHI 1158	305 - 312	110607	HS-21410-F	Side & deck const. in engine room (2nd & 3rd dk.)	1
	*313 - 321	110608	2102301	Upper deck in engine room	1

	FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
MHI 1158	322 - 331	110608	HS-21420-F	Upper deck in engine room	1
	*332 - 336	110701	2101711	Shaft tunnel construction	1
MHI 1158	337 - 341	110701	HS-22400-F	Shaft tunnel construction	1
	*342 - 343	111101	2100011	Midship section	1
MHI 1158	344 - 346	111101	HK-01100-F	Midship section	1
	*347 - 354	111301	2103102	Forward machinery space construction (upper)	1
MHI 1158	355 - 362	111301	HS-45410-F	Forward machinery space construction (upper)	1
	363 - 367	111601	2105411	Accommodation const. (saloon deck (01))(1/7)	1
	368 - 371	111602	2105412	Accommodation const. (crew deck (02))(2/7)	1
	372 - 375	111603	2105413	Accommodation const. (boat deck (03))(3/7)	1
	376 - 378	111604	2105414	Accommodation const. (passenger deck (04))(4/7)	1
	379 - 381	111605	2105415	Accommodation const. (senior officers deck (05))(5/7)	1
	*382 - 385	111606	2105416	Accommodation const. (nav. bridge deck (06))(6/7)	1
MHI 1158	386 - 388	111606	HS-60460-F	Accommodation const. (nav. bridge deck (06))(6/7)	1
	389 - 391	111607	2105417	Accommodation const. (house top deck (07))(7/7)	1
	392 - 399	111609	2100511	Accommodation & eng. casing const. (key plan)	1
	*400 - 405	111701	2103201	Fore construction	1

	FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
MHI 1158	406 - 411	111701	HS-44400-F	Fore construction	1
	*412 - 424	111702	2104101	Aft construction	1
MHI 1158	425 - 437	111702	HS-34400-F	Aft construction	1
	*438 - 443	111703	2105101	Focsle deck construction	1
MHI 1158	444 - 449	111703	HS-69400-F	Focsle deck construction	1
	450 - 463	111704	2100021	Construction profile & deck plan	1
	464 - 468	111706	2105771	Engine casing construction	1
	*469 - 472	111708	2105702	Fan room construction	1
MHI 1158	473 - 476	111708	HS-74420-F	Fan room construction	1
	477 - 489	120001	4120901	Test results (hull outfittings)	1
	490 - 502	120401	4111040	Arrangement of name & key plates	1
	503 - 516	120402	4111042	Master key system	1
	517 - 518	120403	4111043	Key list for furniture	1
	519 - 522	120501	4116280	Arrangement of bottom plug	1
	523 - 529	120502	2100731	Container support construction	1
	*530 - 542	120503	2107311	Container support const. (No. 1 hold)	1
MHI 1158	543 - 555	120503	HS-19410-F	Container suppot const. (No. 1 hold)	1

	FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
	*556 - 574	120504	2107312	Container support const. (No. 2 hold)	1
MHI 1158	575 - 594	120504	HS-19420-F	Container support const. (No. 2 hold)	2
	*595 - 612	120505	2107313	Container support const. (Nos. 3 & 4 hold)	2
MHI 1158	613 - 631	120505	HS-19430-F	Container support const. (Nos. 3 & 4 hold)	2
	*632 - 644	120506	2107314	Container support const. (No. 5 hold)	2
MHI 1158	645 - 658	120506	HS-19440-F	Container support const. (No. 5 hold)	2
	*659 - 668	120507	2107315	Container support const. (No. 6 hold)	2
MHI 1158	669 - 678	120507	HS-19450-F	Container support const. (No. 6 hold)	2
	*679 - 693	120508	2107316	Container platform const. (including container supports)	2
MHI 1158	694 - 709	120508	HS-19460-F	Container platform const. (including container supports)	2
	710 - 719	120509	4104335	Container post	2
	720 - 723	120510	4102202	Raised bellmouth box (anchor)	2
	724 - 734	120511	2107317	Container support const. (pedestal)	2
	735 - 737	120512	2107320M	Modification plan of No. 4 hold (aft) const. supp. (20' x 2 45')	2
	738 - 747	120513	2107321M	Modification plan of No. 1 hold (aft) const. supp. (40/45' 40')	2
	748	160201	1102133	Opening arrangement of exposed part	2
	749 - 759	160203	2142021	Manhole arrangement (including ladder arrangement)	2

	FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
	760 - 774	160204	4120210	Arrangement of small hatch and door	2
	*775 - 786	160206	2101311	Hatch coaming	2
MHI 1158	787 - 798	160206	HS-71400-F	Hatch coaming	2
	799 - 828	160209	4103122	Strength cal. of steel hatch cover	2
	829	160210	2105701	Small house construction	2
	*830 - 856	160401	2107201	Ladder in hold	2
MHI 1158	857 - 883	160401	HS-57400-F	Ladder in hold	2
	884 - 895	160403	4120420	Arrangement of handrail and ladder	2
	896 - 900	160404	4120105	Arrangement of pilot ladder	2
	901 - 903	160701	4120301	Diagram of hyd. oil pipe for open/close of water tight sliding door	2
	904 - 907	170105	4101233	Jib rest for store crane	2
	908 - 909	170201	4120535	Arrangement of radar mast	2
	910 - 911	170202	4120536	Arrangement of aft mast	2
	912 - 925	170203	4120555	Antenna pole & seat of light	2
	926 - 927	170204	4120530	Arr. of fore mast	2
	928 - 929	170205	2142051	Mast construction	2
	930 - 951	190101	3101001	Painting schedule	2

	FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
	952 - 953	190102	4116003	Pipe color identification schedule	2
	954 - 959	190502	3106040	Test procedure and result of impressed current cathodic protection system	2
	*960 - 972	220003	2104301	Rudder and rudder stock	2
MHI 1158	973 - 985	220003	HK-33100-F	Rudder and rudder stock2	
	986 - 987	220004	6164101	Elementary and deck wiring plan of steering gear circuit	2
	*988 - 991	220005	2103101	Forward machinery space construction (lower)	2
MHI 1158	992 - 995	220005	HS-45420-F	Forward machinery space construction (lower)	2
	996 - 1002	240301	1102134	Maneuvering information booklet	2
	1003	240302	1102135	Maneuvering data board	2
	1004 - 1005	260001	4102001	Equipment number	2
	1006 - 1015	260102	4101401	Diagram of hydraulic oil pipe for deck machinery	2
	1016 - 1026	260103	4102220	Mooring arrangement	2
	1027 - 1028	260505	4102250	Detail of deck roller seating	2
	1029 - 1036	270001	4104332	Arrangement of containers	2
	1037 - 1061	270003	4104340	Arrangement of stage for containers	2
	1062 - 1068	270004	4104360	Container fitting	2

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
1069 - 1077	270005	4104330	Strength calculation of container loading (3 tiers stack on deck)	2
1078 - 1081	270007	4104342	Stage for container in hold	2
1082 - 1085	270008	4104331	Strength calculation of contianer loading (4 tiers stack on deck)	2
1086 - 1094	270009	4104348	Arr. of stowage box for cont. loose fitting (in hold)	2
1095 - 1106	270010	4104347	Arr. of stowage box & guide stanchion for loose fitting (on deck)	2
1107	280101	1102167	Marking for net tonnage and official number	2
1108	280301	1102179	Bulbous bow and bow thruster mark	2
1109 - 1110	280302	2142085	A Tank boundary marks B Tug push marks	2
1111 - 1112	280304	5131104	Colour schedule of piping in engine room	2
1113 - 1114	280401	5173003	Funnel mark	2
1115 - 1117	280601	1102175	Draft marks	2
1118	280602	1102172	Freeboard mark	2
1119 - 1131	290101	1102051	Tank properties	2
1132 - 1135	290102	1102061M	Capacity plan with deadweight scale	2
1136 - 1141	290106	1102101M	Loading manual	2
1142 - 1143	290109	1102084	Cross curves of stability	2

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
1144	290111	1102086	Bonjean's table	2
1145 - 1168	290112	1102102M	Trim and stability booklet	2
1169 - 1171	290113	1102104M	Trim and stability calculation	3
1172 - 1196	290114	1102054	Sounding tables	3
1197 - 1199	290116	2100901	Section modulus calculation	3
1200	290201M	1102090M	Trim table	3
1201 - 1202	290202	1102035	Freeboard calculation	3
1203 - 1217	290302	1102205	Stability test data	3
1218 - 1220	290702M	1102103M	Longitudinal strength calculation	3
1221 - 1223	290703	5124102	Calculation of lateral vibration	3
1224 - 1226	291301	1102081	Hydrostatic table	3
1227 - 1230	291303	1102088	Correction of displacement for trim	3
1231	291304	1102089	Draft correction table	3
1232 - 1236	320701	5174006	Arrangement of engineer's conference room	3
1237	330001	4111001	Accommodation plan (second deck)(1/8)	3
1238	330002	4111002	Accommodation plan (upper deck)(2/8)	3
1239	330003	4111003	Accommodation plan (saloon deck (01))(3/8)	3

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
1240	330004	4111004	Accommodation plan (crew deck (02))(4/8)	3
1241	330005	4111005	Accommodation plan (boat deck (03))(5/8)	3
1242	330006	4111006	Accommodation plan (passenger deck (04))(6/8)	3
1243	330007	4111007	Accommodation plan (sen. off. deck (05))(7/8)	3
1244	330008	4111008	Accommodation plan (nav. bridge deck (06))(8/8)	3
1245 - 1254	330010	4109002	Test result of noise level measurement	3
1255 - 1272	330102	4109110	Arrangement of joiner bulkhead, deck covering & insulation	3
1273 - 1283	330103	SK-F-014	Detail of joiner work in eng. control room.	3
1276 - 1283	330104	4111035	Arrangement of accommodation door & window	3
1284 - 1288	330106	4111047	Miscellaneous joiner fittings	3
1289 - 1299	340101	4111601	Galley etc. arrangement	3
1300 - 1308	340301	4113001	Arrangement of refrig. prov. store	3
1309 - 1320	340302	4112001	Arrangement of stores	3
1321 - 1327	360101	4111501	Plumbing fixture	3
1328 - 1331	360402	4116507	Diagram of control air piping for stopper of garbage hopper	3
1332 - 1344	380002	4106101	Arrangement of hold ventilator (incl. store space)	3
1345 - 1356	380003	4115101	Dia. & arrgt. of air cond. and vent. system for accomm. space	3

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
1357 - 1363	380307	4115303	Diagram of control air pipe for air conditioning in accomm. space	3
1364 - 1379	400001	5151001	Arrangement of engine room & emerg. generator room incl. flooring & vent air ducting	3
*1380 - 1381	400002	5141011	Arrangement of engine control room	3
MHI 1158 1382 - 1384	400002	GA-00301-F	Arrangement of engine control room	3
1385 - 1386	400003	5110003	Principal particulars of machinery part	3
1387 - 1392	400004	4A16915	Arr. of forward machinery space and A/C unit room	3
1393 - 1399	400005	4A16916	Removal procedure of equipments in forward machinery space	3
1400 - 1401	400009	4116560	Safety valve pressure settings	3
1402 - 1405	410101	5121000	Installation of main engine	3
1406 - 1408	410501	5110004	Anticipated steam consumption table	3
1409 - 1410	410502	5110005	Heat balance & flow diagram for cooling water system	3
1411 - 1413	410503	5110006	Lubricating oil chart	3
1414 - 1415	430101	5124200	Arrangement of shafting	3
1416 - 1417	430102	5124201	Intermediate shaft	3
1418 - 1419	430103	5124203	Propeller shaft	3
*1420 - 1426	430105	5124500	Method of withdrawing propeller shaft & position of eye plate	3

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
MHI 1158 1427 - 1433	430105	GA-34500-F	Method of withdrawing propeller shaft & position of eye plate	3
1434 - 1437	430106	5124101	Calculation of shafting alignment	3
1438 - 1439	430201	5124300	Assembly of intermediate shaft bearing	3
*1440 - 1444	430203	5124302	Stern tube bearing	3
MHI 1158 1445 - 1450	430203	GA-34302-F	Stern tube bearing	3
1451 - 1462	430301	2104201	Stern frame & stern tube	3
1463 - 1466	440001	5124100	Calculation of shafting & propeller according to ABS rule	3
1467 - 1469	440003	5124800	List of spare parts & tools for shafting & propeller	3
1470 - 1472	470004	4116001	Pumping arrangement	3
1473 - 1490	480001	4116002	Piping practice for full part	3
1491 - 1492	480002	4100000	Piping arrangement on upper deck (section)	3
1493 - 1498	480003	4100001	Piping arrangement on upper deck (plan)	3
1499 - 1525	480004	4100005	Piping arrangement under upper deck passage (1/3 - 3/3)	3
1526 - 1529	480007	4100025	Piping arrangement in steering gear room (including aft pump units)	3
1530 - 1539	480008	4100030	Piping arrangement on bulkhead (1/7 - 7/7)	3
1540 - 1544	480009	4100050	Piping arrangement in double bottom tank including duct keel (plan)	3
1545 - 1549	480010	4100051	Piping arrangement in double bottom tank including duct keel (section)	3

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
1550 - 1555	480011	4100010	Piping arrangement of focsle deck (incl. boats'n store and fwd. pump unit space)	3
1556 - 1562	480013	4100039	Piping arrangement in No. 6 hold (incl. passage & void sp.)	3
1563 - 1565	480014	4100037	Piping arrangement in No. 1 hold (incl. coff.)	3
1566 - 1567	480015	4100038	Piping arrangement in No. 2 hold	3
1568 - 1570	480016	4100041	Piping arrangement in No. 3 hold	3
1571 - 1575	480017	4100042	Piping arrangement in No. 4 hold (incl. No. 4 fore wing W. B. TK.)	3
1576 - 1600	480101	4116201	Dia. of bilge, ballast & fuel oil lines including anti - heeling system	3
1601 - 1606	480102	5131020	Bilge and waste oil disposal piping diagram in engine room	3
1607 - 1613	480103	4100060	Piping arrangement in forepeak tank & deep W. B. tank	3
1614 - 1616	480104	4100070	Piping arrangement in aft peak tank	3
1617 - 1618	480105	4100071	Piping arrangement in cool. water tank	3
1619 - 1623	480107	4100054	Piping arrangement in No. 3 fore and No. 3 aft wing fuel oil tk.	3
1624 - 1629	480201	5131001	Feed & condensate piping diagram in engine room	3
1630 - 1636	480301	5131019	Fire, G. S. & ballast piping diagram in engine room	3
1637 - 1661	480302	4116101	Dia. of fire & wash deck line & arrangement of fire extinguishers	3
1662 - 1668	480401	5131023	F. W. service piping diagram in engine room	3

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
1669 - 1681	480402	4116401	Dia. of fresh, hot, potable water & steam pipe for accomm. use	3
1682 - 1686	480403	5131016	Cooling F. W. piping diagram in engine room	3
1687 - 1692	480501	5131018	Cool. S. W. & S. W. service piping diagram in engine room	3
1693 - 1707	480701	4116501	Dia. of drain and soil pipe for accomm. space	3
1708 - 1719	480801	4116601	Arrangement of exposed deck scupper pipes (including ref. container drain pipes)	3
1720 - 1725	480802	5131008	Steam drain piping diagram in engine room	3
1726 - 1740	480901	4116701	Dia. of air, sounding & filling pipes	3
1741 - 1747	481001	5131002	Steam and exhaust piping diagram in engine room	3
1748 - 1752	481301	4116801	Dia. of heating system in fuel oil tank	3
1753 - 1759	481401	5131009	L. O. service piping diagram in engine rm	3
1760 - 1766	481402	5131012	L. O. transfer & purification piping diagram in engine room	3
1767 - 1773	481501	5131013	F. O. service piping diagram in engine room	4
1774 - 1779	481502	5131015	F. O. purification piping diagram in engine room	4
1780 - 1783	481504	4100075	Piping arrangement in deep fuel oil tank	4
1784 - 1788	481505	5181001	Arrangement and detail of fitting attached to F. O. settling tank (S) and serv. tank (S)	4
1789 - 1790	481506	5181002	Arrangement of heating coil in F. O. settl. (S) and serv. tank	4

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
1791 - 1796	481509	5131014	F. O. transfer piping diagram in engine room	4
1797 - 1800	481511	5181003	Arrangement & detail of fitting attached to F. O. settling tank (P)	4
1801 - 1802	481512	5181004	Arrangement of heating coil in F. O. settling tank (P)	4
1803 - 1812	481801	4117401	Dia. of compressed air line	4
1813 - 1819	481802	5131024	Compressed air piping diagram in engine room	4
1820 - 1825	481803	5131025	Control air piping diagram in engine room	4
1826 - 1830	481804	5131026	Main engine remote control air piping diagram	4
1831 - 1837	481901	4116301	Dia. of hydraulic oil pipe for valve remote control system	4
1838 - 1845	482201	4116705	Dia. of pneumacator pipes (incl. draught)	4
1846 - 1850	482203	4116105	Dia. of central cleaning system	4
1851 - 1855	482425	4Z16301	Position for valve & detail pieces attached on hull (hull part)	4
1856 - 1863	482427	4A16950	Position for valve & detail of pieces attached on hull in fwd mach. space	4
1864 - 1873	482601	4116004	Comparison of ASTM and JIS material (for pipe joints)	4
1874 - 1931	482602	4116005	Specification of non standard pipe joints for steel pipes	4
1932 - 1935	482603	4116006	Specification and comparison table (JIS/ASTM) of bolts & nuts	4
1936 - 1963	482604	4116007	Specification of non standard pipe joints for copper nickel pipes	4

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
1964 - 1966	482610	4116402	Diagram of remote control air piping for sea valves in fwd. mach. space	4
1967 - 1970	482701	4A16901	Fitting arr. of duct & piping for acc. spaces (upper deck p. side) 1/11	4
1971 - 1974	482702	4A16902	Fitting arr. of duct & piping for acc. spaces (upper deck s. side) 2/11	4
1975 - 1978	482703	4A16903	Fitting arr. of duct & piping for acc. spaces (saloon deck) 3/11	4
1979 - 1981	482704	4A16904	Fitting arr. of duct & piping for acc. spaces (crew deck) 4/11	4
1982 - 1984	482705	4A16905	Fitting arr. of duct & piping for acc. spaces (boat deck) 5/11	4
1985 - 1987	482706	4A16906	Fitting arr. of duct & piping for acc. spaces (passenger deck) 6/11	4
1988 - 1990	482707	4A16907	Fitting arr. of duct & piping for acc. spaces (senior officer deck) 7/11	4
1991 - 1992	482708	4A16908	Fitting arr. of duct & piping for acc. spaces (nav. bridge deck) 8/11	4
1993 - 1995	482709	4A16909 1/2	Fitting arr. of duct & piping for acc. spaces (2nd deck) 9/11	4
1996 - 1999	482709	4A16909 2/2	Fitting arr. of duct & piping for acc. spaces (CO_2 bottle room) 9/11	4
2000 - 2010	482710	4A16910 1/2	Fitting arr. of duct & piping for acc. spaces (3rd deck) 10/11	4
2011 - 2017	482710	4A16910 2/2	Fitting arr. of duct & piping for acc. spaces (fwd. mach. space) 11/11	4
*2018 - 2022	520001	5131030	Exhaust gas piping diagram in engine room	4
MHI 1158 2023 - 2027	520001	GB-60111-F	Exhaust gas piping diagram in engine room	4
2028 - 2301	520002	2107601	Funnel construction	4

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
2032 - 2040	600003	6100091	Test record of electric equipment	4
2041 - 2046	610001	6110021	Electric power consumption table	4
2047 - 2084	610212	6110091	Test record of generator on board and sea trial	4
2085 - 2986	620001	6162101	Arrangement of electric equipment engine room floor & shaft tunnel	4
2087	620003	6162201	Arrangement of electric equipment (accom. second deck)	4
2088	620006	6162121	Arrangement of electric equipment engine room 3rd deck	4
2089 - 2090	620007	6162321	Arrangement of electric equipment radio room	4
2091 - 2092	620008	6162131	Arrangement of electric equipment engine room 2nd deck	4
2093 - 2102	620009	6162501	Arrangement of electric equipment upp. dk fore & No. 1 ~ 3 hold	4
2103	620010	6162141	Arrangement of electric equipment engine room partial Dk.	4
2104 - 2105	620011	6162151	Arrangement of electric equipment engine room upper parts	4
2106	620012	6162211	Arrangement of electric equipment (accom. upper Dk)	4
2107	620013	6162221	Arrangement of electric equipment (accom. saloon Dk)	4
2108	620014	6162231	Arrangement of electric equipment (crew Dk)	4
2109	620015	6162241	Arrangement of electric equipment (boat Dk)	4
2110	620016	6162251	Arrangement of electric equipment (passenger Dk)	4
2111	620017	6162261	Arrangement of electric equipment (senior officers Dk)	4

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
2112	620018	6162271	Arrangement of electric equipment (nav. bridge Dk)	4
2113 - 2114	620019	6162341	Arrangement of electric equipment battery room	4
2115 - 2118	620020	6162351	Arrangement of electric equipment electric room	4
2119 - 2122	620022	6162511	Arrangement of electric equipment upper deck aft & No. 6 hold	4
2123 - 2130	620023	6162531	Arrangement of electric equipment upper deck mid. & No. 4, 5 hold	4
2131 - 2134	620024	6162551	Arrangement of electric equipment duct keel	4
2135 - 2137	620025	6162561	Arrangement of electric equipment steering gear room	4
2138 - 2141	620026	6162571	Arrangement of electric equipment Fwd. mach. space & A/C unit room	4
2142 - 2143	620028	6110023	Calculation of transformer capacity	4
2144	620030	6162281	Arrangement of electric equipment (house top)	4
2145 - 2148	620031	6162331	Arrangement of electric equipment Fwd. swbd. room	4
2149 - 2152	620032	6162581	Arrangement of electric equipment focsle deck & bosn's store	4
2153 - 2157	620033	6162301	Arrangement of electric equipment radar mast	4
2158 - 2159	620051	6162311	Arrangement of electric equipment wheel house	4
2160 - 2164	620101	6110025	Selective operation under short circuit cond.	4
*2165 - 2195	620201	6110001	One line diagram of electric power system	4
MHI 1158 2196 - 2226	620201	JO-00110-F	One line diagram of electric power system	4

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
2309	620223	6164020	Deck wiring plan of electric power system (accom. second deck)	4
2310	620224	6164022	Deck wiring plan of electric power system (accom. saloon deck)	4
2311	620225	6164014	Deck wiring plan of electric power system engine room partial deck	4
2312 - 2314	620227	6164054	Deck wiring plan of electric power system steering gear room	4
2315 - 2318	620228	6164055	Deck wiring plan of electric power system fwd. mach. space & A/C unit room	4
2319 - 2327	620229	6164030	Cable number list of electric power system (acc. space)	4
2328 - 2346	620230	6162191	Cable number list of electric power system (engine room)	4
2347 - 2350	620231	6164028	Deck wiring plan of electric power system fwd. swbd. rm.	4
2351 - 2354	620232	6164029	Deck wiring plan of electric power system (electric room)	4
2355 - 2369	620234	6162192	Cable number list of instrument & communication system (engine room)	4
2370 - 2387	620235	6162291	Cable number list of instrument & communication system (acc. space)	5
2388 - 2396	620236	6110093	Test record of insulation resistance	5
2397 - 2448	620237	6110011	Connection diagram of electric power system	5
2449 - 2454	620301	6110024	Calculation of battery capacity	5
2455 - 2480	640101	6120001	One line diagram of electric lighting system	5
2481 - 2483	640102	6120021	Arrangement of navigation light	5

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
2227 - 2245	620203	6160002	Typical practice of cable installation	4
2246 - 2270	620204	6160003	Cable penetration for Dk. & Bhd.	4
2271 - 2275	620205	6110022	Calculation of short circuit current	4
2276 - 2277	620207	6164010	Deck wiring lan pof electric power system engine room floor	4
2278 - 2281	620208	6164051	Deck wiring plan of electric power system focsle deck & bosn's sotre	4
2282	620209	6164023	Deck wiring plan of electric power system (crew Dk)	4
2283 - 2284	620210	6164012	Deck wiring plan of electric power system engine room 3rd dk	4
2285 - 2295	620211	6164052	Deck wiring plan of electric power system upper deck mid & No. 1 - 5 hold	4
2296 - 2299	620212	6164053	Deck wiring plan of electric power system upper deck aft. & No. 6 hold	4
2300 - 2301	620213	6164013	Deck wiring plan of electric power system engine room 2nd deck	4
2302 - 2303	620214	6164015	Deck wiring plan of electric power system engine room upper	4
2304	620215	6164021	Deck wiring plan of electric power system (accom. upper deck)	4
2305	620216	6164024	Deck wiring plan of electric power system (boat deck)	4
2306	620217	6164025	Deck wiring plan of electric power system (passenger deck)	4
2307	620218	6164026	Deck wiring plan of electric power system (senior officers deck)	4
2308	620219	6164027	Deck wiring plan of electric power system (nav. bridge deck)	4

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
2529 - 2530	640119	6164222	Deck wiring plan of electric lighting system (accom. saloon deck)	5
2531 - 2532	640121	6164228	Deck wiring plan of electric lighting system (house top)	5
2533 - 2537	640122	6164255	Deck wiring plan of electric lighting system fwd. mach. space & A/C unit room	5
2538 - 2540	640123	6164254	Deck wiring plan of electric lighting system steering gear room	5
2541 - 2558	650001	6130001	One line diagram of I. C. & nautical system	5
2559 - 2584	650005	6130011	Connection diagram of I. C. & nautical system	5
2585 - 2586	650101	6164111	Elementary and deck wiring plan of sound powered telephone	5
2587 - 2588	650401	6164131	Elementary and deck wiring plan of fire detect. & alarm system	5
2589 - 2624	650402	6140001	One line diagram of instrument & alarm system	5
2625 - 2627	651403	6164121	Elementary and deck wiring plan of general alarm system	5
2628 - 2696	650406	6140011	Connection diagram of instrument & alarm system	5
2697 - 2703	670007	6150005	One line diagram of radio system	5
2704 - 2705	670008	6150091	Test record of radio direction finder	5
2706 - 2715	670009	6150012	Connection diagram of radio system	5
2716 - 2746	720001	5141001	Automation table (machinery part)	5
2747 - 2761	720016	5000000	Maintenance program for U.S.C.G.	5

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
2484 - 2499	640103	6164252	Deck wiring plan of electric lighting system upper deck mid. & No. 1 - 5 hold	5
2500 - 2503	640105	6164251	Deck wiring plan of electric lighting system focsle deck & bosn's store	5
2504	640106	6164212	Deck wiring plan of electric lighting system Engine room 3rd deck	5
2505	640107	6164213	Deck wiring plan of electric lighting system engine room 2nd deck	5
2506 - 2510	640108	6164253	Deck wiring plan of electric lighting system upper deck aft. & No. 6 hold	5
2511 - 2512	640109	6164210	Deck wiring plan of electric lighting system engine room floor & shaft tunnel	5
2513 - 2514	640110	6164215	Deck wiring plan of electric lighting system engine room upper deck	5
2515 - 2516	640111	6164221	Deck wiring plan of electric lighting system (accom. upp. deck)	5
2517	640112	6164223	Deck wiring plan of electric lighting system (crew deck)	5
2518 - 2519	640113	6164224	Deck wiring plan of electric lighting system (boat deck)	5
2520 - 2521	640114	6164225	Deck wiring plan of electric lighting system (passenger deck)	5
2522 - 2523	640115	6164226	Deck wiring plan of electric lighting system (senior officers deck)	5
2524 - 2525	640116	6164227	Deck wiring plan of electric lighting system (nav. bridge deck)	5
2526	640117	6164214	Deck wiring plan of electric lighting system engine room partial deck	5
2527 - 2528	640118	6164220	Deck wiring plan of electric lighting system (accom. second deck)	5

	FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
	2762 - 2799	720017	5141031	Machinery part test results of automation & instrumentation	5
	2800 - 2807	720018	5141032	Machinery part test results of automation & instrumentation (U.S.C.G. biennial inspection)	5
	2808 - 2817	820001	4118101	Lifesaving arrangement	5
	2818 - 2821	910104	5174002	Arrangement and fittings for engine works shop and stores	5
	2922 - 2826	920007	5131107	List of general tools and fittings in engine room	5
	2827 - 2837	920301	4120780	Inventory of stores	5
	2838 - 2839	930001	430001M	Fire control & life saving plan	5
	2840 - 2858	930003	4119101	Dia. of CO_2 fire extinguishing system	5
	2859 - 2860	930005	4119106	Piping arrangement in CO_2 cylinder room	5
	*2861 - 2874	930009	4109101	Construction of fire protection	5
MHI 1185	2875 - 2889	930009	SO-23100-F	Construction of fire protection	5
	2890	930013	4A16958	Arrangement of fire control station	5
	2891 - 2900	940002	4120001	Escape route	5
	2901 - 2909	940003	1100073	Emergency data (fire, safety & damage stability) Engineer's operating manual (VOL. I, II, III and IV)	5

THE FOLLOWING PLANS APPLY TO MHI HULL 1158 ONLY.

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
3066 - 3069	111708	HS-74420-F	Fan room construction	6
3070 - 3082	120503	HS-19410-F	Container suppot const. (No. 1 hold)	6
3083 - 3102	,120504	HS-19420-F	Container support const. (No. 2 hold)	6
3103 - 3121	120505	HS-19430-F	Container support const. (Nos. 3 & 4 hold)	6
3122 - 3135	120506	HS-19440-F	Container support const. (No. 5 hold)	6
3136 - 3145	120507	HS-19450-F	Container support const. (No. 6 hold)	6
3146 - 3161	120508	HS-19460-F	Container platform const. (including container supports)	6
3162 - 3205	160202	FA-56930-F	Steel hatch cover (weather deck pontoon type)	6
3206 - 3217	160206	HS-71400-F	Hatch coaming	6
3218 - 3244	160401	HS-57400-F	Ladder in hold	6
3245 - 3257	220003	HK-33100-F	Rudder and rudder stock	6
3258 - 3261	220005	HS-45420-F	Forward machinery space construction (lower)	6
3262 - 3264	400002	GA-00301-F	Arrangement of engine control room	6
3265 - 3271	430105	GA-34500-F	Method of withdrawing propeller shaft & position of eye plate	6
3272 - 3277	430203	GA-34302-F	Stern tube bearing	6
3278 - 3283	520001	GB-60111-F	Exhaust gas piping diagram in engine room	6
3284 - 3314	620201	JO-00110-F	One line diagram of electric power system	6
3315 - 3329	930009	SO-23100-F	Construction of fire protection	6

FILM NO.	LYKES REF. NO.	DWG. NO.	TITLE	ROLL NO.
2910 - 2918	110201	HS-10410-F	Double bottom in hold (fore)	6
2919 - 2931	110202	HS-10420-F	Double bottom in hold (aft)	6
2932 - 2939	110203	HS-20400-F	Double bottom in engine room	6
2940 - 2950	110602	HS-11410-F	Cargo hold const. (No. 1 hold)	6
2951 - 2965	110603	HS-11420-F	Cargo hold const. (No. 2 hold)	6
2966 - 2981	110604	HS-11430-F	Cargo hold const. (Nos. 3 & 4 holds)	6
2982 - 2994	110605	HS-11440-F	Cargo hold const. (No. 5 hold)	6
2995 - 3003	110606	HS-11450-F	Cargo hold const. (No. 6 hold)	6
3004 - 3011	110607	HS-21410-F	Side & deck const. in engine room (2nd & 3rd dk.)	6
3012 - 3021	110608	HS-21420-F	Upper deck in engine room	6
3022 - 3026	110701	HS-22400-F	Shaft tunnel construction	6
3027 - 3029	111101	HK-01100-F	Midship section	6
3030 - 3037	111301	HS-45410-F	Forward machinery space construction (upper)	6
3038 - 3040	111606	HS-60460-F	Accommodation const. (nav. bridge deck (06))(6/7)	6
3041 - 3046	111701	HS-44400-F	Fore construction	6
3047 - 3059	111702	HS-34400-F	Aft construction	6
3060 - 3065	111703	HS-69400-F	Focsle deck construction	6

APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL								

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER — SHIP'S NO. **1325** — SHIP'S NAME **TILLIE LYKES**

CO-ORDINATION SECTION

LIST OF SUBCONTRACTORS

LYKES REF. NO. 010105 — MITSUI DRAWING NO. 1100065

(SHEETS WITH COVER)

PLAN RECORD			
ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		PREPARED FOR S.No.1323 AS FINISHED PLAN,	
		MADE APPLICABLE TO S.NO.1324 AND S.NO.1325.	

PAINT & CORROSION PROTECTION

NO.	ITEM	MANUFACTURER
1.	Inorganic zinc primer	Nippon Paint Co., Ltd. (Associated with International Paint Co.)
2.	Other Paint	Nippon Paint Co., Ltd. (Associated with International Paint Co.)
3.	Impressed current system	Nippon Corrosion Engineering CO., Ltd. (Licensee of Engelhard International Inc.)

HULL PART

NO.	ITEM	MANUFACTURER
1.	Windlass and Mooring Winch	Fukushima Ltd.
2.	Store Crane	Dowell & Co., Ltd. (Licensee of Schat Davit)
3.	Anchor	Kiyomoto Iron & Mach. Works Co., Ltd.
4.	Anchor chain cable	Nippon Chain & Anchor CO., Ltd.
5.	Steel Hatch Cover	Mitsubishi Heavy Industries, Ltd.
6.	Container Stowing Fitting	Mitsui-line Kogyo Kaisha Ltd.
7.	Joiner Bulkhead, Lining & Ceiling (Modular Panel)	Nippon Novenco Co., Ltd.
8.	Deck Covering	Kuriyama Rubber Co., Ltd.
9.	Heat & Sound Insulation for Accommodation	Asahi Asbestos Co., Ltd.
10.	Window of Wheelhouse & Cabin	Nishinari Jukogyo Co., Ltd.
11.	Plumbing Fixture & Sanitary Outfit	Toto Ltd.
12.	Galley and Pantry Equipment	
	a) Electrical Type	Hobart Corp. and Etc.
13.	Elevator & Dumbwaiter	Nippon Elevator Ind. Co., Ltd.
14.	Laundry Equipment	Unimac Co., Inc.
		Huebsch Originators
15.	Refrigerating Plant for Cold Provision Store	Takatori Manufacturing Co., Ltd.

NO.	ITEM	MANUFACTURER
16.	Mechanical Ventilation Fan for Refrigerated Container Hold	Nishishiba Denki K.K.
17.	Mechanical Ventilation Fan for Others	Nishishiba Denki K.K.
18.	Air Conditioning System	Takatori Manufacturing Co., Ltd.
19.	Central Cleaning System	Electrolux Industrier A.S.
20.	Remote Control System for Ballast Line	Danfoss
21.	Hydraulically Operated Valve for Ballast Line	Keyston Japan Co., Ltd.
22.	Tank Level Gauge	Auxitrol
23.	Sewage Treatment Plant	Omnipure Inc.
24.	Steerign gear	Mitsubishi Heavy Industries, Ltd.
25.	Bow Thruster	Mitsubishi Heavy Industries, Ltd.
27.	Lifeboat	Harding Safety, Inc.
28.	Lifeboat Davit	Harding Safety, Inc. (Schat David Ltd.)
29.	Liferaft	RFD Elliot
30	CO_2 Fire Extinguishing System & Smoke Detector	Chemetron Fire Systems Inc. (U.S.A.)
31.	Accommodation Ladder	Nakano Seisakusho CO., Ltd.
32.	Watertight Sliding Door	Walz & Krenzer, Inc.
33.	Life Buoy, Life Jacket etc.	Life buoy: Billy Pugh Co., Inc. Life Jacket: Safegard Corp. U.S.A.

NO.	ITEM	MANUFACTURER
34.	Fire Detector for Accommodation and Engine Room	Fenwall Incorporated
35.	Portable Fire Extinguisher	General Fire Extinguisher Corp.
	Foam Applicator	Rockwood Inc.
36.	Fire Hose & Nozzle	Fire Hose: Goodrich Nozzle: Rockwood
37.	Fireman's Outfit	Protective Clothing: Body-Guard Division
		Boots: Duraped
		Gloves: Sierra Fire Equipment
		Helmet: Cairns and Brother, Inc.
		Flushlihgt: Bright Star Industries, Inc.
		Axe: Elkart Brass Mfg. Co.
		Flame Safety Lamp: Koehler Manufacturing Company
		Breathing Apparatus: Servivair
		Fire axe: Elkhart Brass Mfg. Co.

MACHINERY PART

NO.	ITEM	MANUFACTURER
1.	Main Engine	Mitsui Engineering & Shipbuilding Co., Ltd. (B & W)
	Turbocharger	Mitsui Engineering & SHipbuilding Co., Ltd. (MAN)
	Bridge Control Equipment	Mitsui Engineering & Shipbuilding Co., Ltd.
2.	Generator Turbine	Mitsubishi Heavy Industries, Ltd.
3.	Generator Diesel Engine	Daihatsu Diesel Mfg. Co., Ltd.
4.	Emergency Generator Engine	General Motors Corporation
5.	Stern tube bearing	Kobe Steel Ltd.
6.	Stern Tube Sealing Equipment	Kobe Steel Ltd.
7.	Propeller	Stone Manganese
8.	Auxiliary boiler	Mitsubishi Heavgy Industries, Ltd.
9.	Exhaust Gas Economizer	Mitsui Engineering & Shipbuilding Co., Ltd.
10.	Main, Topping-up and Ship Service Air Compressors	Tanabe Pneumatic Machinery Co., Ltd.
11.	Control Air Compressor	Nash Engineering Co., Ltd. (U.S.A.)
12.	Emergency Air Compressor	Tanabe Pneumatic Machinery Co., Ltd.
13.	Centrifugal Pump	Shinko Kinzoku Industries Co., Ltd.
13-1.	Heeling Pump (Axial Flow Pump)	Frank Mohn

NO.	ITEM	MANUFACTURER
14.	Gear Pump	Taiko Kikai Industries Co., Ltd.
15.	Screw Pump	Taiko Kikai Industries Co., Ltd.
16.	Mohno Pump	Taiko Kikai Industries Co., Ltd.
17.	Reciprocating pump	Heishin Pump Works Co., Ltd.
18.	Oil Purifier	Nagase-Alfa K.K. (Alfa-Laval)
19.	Engine Room Ventilating Fan	Nishishiba Electric Co., Ltd.
20.	Hoisting Crane	Sekigahara Seisakusho Co., Ltd.
21.	Universal Machine Tool	Dainichi Kinzoku Kogyo Co., Ltd.
22.	Grinder	Dainichi Kinzoku Kogyo K.K.
23.	Electric Welder	Unitor Ships Service
24.	Gas Welder	Drew Chemical
25.	Cooler & Heater	Mitsui Engineering & Shipbuilding Co., Ltd.
26.	Cooler (Plate Type)	Hisaka Works Ltd.
27.	Condenser	Mitsui Engineering & Shipbuilding Co., Ltd.
28.	Oil Heater	Cadelius
29.	Fresh Water Generator	Nagase-Alfa K.K. (Nirex)
30	Bilge Separator	Heishin Pump Works Co., Ltd.
31.	Control Air Dehydrator	Hankison

NO.	ITEM	MANUFACTURER
32.	Hydrophore Unit	Shinko Kinzoku Industries Co., Ltd.
33.	Pakcaged Air Conditioner for Engine Control Room	Toyo Engineering Works, Ltd.
34.	Fuel Oil Blending Unit	Dodwell & Co., Ltd.
35.	Fuel Oil Discharge Filter for Main Engine and Filtrator	Misuzu Machinery & Engineering Ltd. (Boll & Krch)
36.	Lube Oil Discharge Filter for Main Engine	Niikura Kogyo Co., Ltd.
37.	Lube Oil Fine Filter	Ameroid Japan Service Co., Ltd.
38.	Automatic Temperature and Pressure Control Valve (Air Operated)	Nakakita Seisakusho Co., Ltd.
39.	Butterfly valve	Tomoe Valve Co., Ltd.
		Keystone
40.	Safety Valve	Sankyo Seisakusho Co., Ltd.
		Dressor Japan
		Fukui Seisakusho Co., Ltd.
41.	Viscosity Control Equipment	VAF Instruments (Holland)
42.	Main Engine Performance Monitor	General Electric Co., (U.S.A.)
43.	Drinking Water Sterilizer	Bull and Roberts, Inc.
44.	Main, Ship Service, and Control Air Reservoir	Mitsui Engineering & Shipbuilding Co., Ltd.
45.	Shaft Horse Power Meter	EEL

ELECTRICAL PART

NO.	ITEM	MANUFACTURER
1.	Main & Emergency Generator	Shinko Electric Co., Ltd.
2.	Main & Emergency Switchboard	Terasaki Electric Co., Ltd.
	a) Except Power Management System	Terasaki Electric Co., Ltd.
	b) Power Management System	Terasaki Electric Co., Ltd.
3.	Motor	Shinko Electric Co., Ltd.
4.	Motor Starter Including Group Starter Panel	Terasaki Electric Co., Ltd.
5.	Distribution Panelboard	Terasaki Electric Co., Ltd.
6.	Battery Charging & Discharging Panel	Terasaki Electric Co., Ltd.
7.	Storage Battery	Japan Storage Battery Co., Ltd.
8.	Transformer	Shikoku Transformer Co., Ltd.
9.	Ref. Container Receptacle	Kokosha Co., Ltd.
10.	Navigation Light	Kokosha Co., Ltd.
11.	Day Signalling Light & Other Signal Light	Arnessen Electric Co., Ltd.
12.	General Use INC Light	Kokosha Co., Ltd.
	General Use FL Light	Kokosha Co., Ltd.
	Mercury Flood Light	Pauluhn Electric Mfg Co., Inc. (USA)
	INC Flood Light	Pauluhn Electric Mfg Co., Innc. (USA)
13.	Sound Powered Telephone	Hose McCann Telephone Co., Inc.

NO.	ITEM	MANUFACTURER
14.	Automatic Exchange Telephone	Nippon Hakuyo Electronics, Ltd.
15.	Public Addressor	Kyoritsu Radio Co., Ltd.
16.	Engine Tlegraph Propeller Shaft Revolution Ind. Rudder Angle Inc.	Munotani Nautical Instrument Mfg. Co., Ltd.
17.	Central Clock	Seikosha Co., Ltd.
18.	Machinery Monitoring System	General Electric Co.
19.	Ref. Container Monitoring	General Electric Co.
20	Gyro Compass & Steering Control	Tokyo Keiki Co., Ltd.
21.	Doppler Log	Furuno Electric Co., Ltd.
22.	Echo Sounder	Furuno Electric Co., Ltd.
23.	Anemometer	Koshin Denki Kogyo Co., Ltd.
24.	Rodio Equipment VHF DF	ITT Mackay Marine
25.	Satellite Communication	ITT Mackay Marine
26.	Weather Facsimile	Japan Radio Co., Ltd.
27.	Satellite Navigator	Racal Decca
28.	Loran C	Racal Decca
29	Radar & ARPA	Selesmar
30.	Voyage Performance Calculator	Tokyo Keiki Co., Ltd.

NO.	ITEM	MANUFACTURER
31.	Shaft Generator	Siemens
32.	General Alarm System	Hose McCann Telephone Co., Ltd.

GENERAL NOTE

PREPARED FOR S.1323 AS FINISHED PLAN

ALL SEPARATE INSTRUCTION BOOK SHALL HAVE SAME LYKES AND MES NOS. BUT SEPARATE BOOK WILL HAVE (IB) AFTER LYKES AND MES NO.

WHERE LISTED PLAN CONTAINS INSTRUCTION BOOK (NOT SEPARATE) PLAN WILL HAVE (I) AFTER BOTH LYKES AND MES PLAN NO.

FINISHED PLAN LIST WILL SHOW (I) OR (IB).

LIST WILL HAVE NOTE:
(I) INDICATES INSTRUCTION BOOK IS CONTAINED IN PLAN
(IB) INDICATES THERE IS SEPARATE INSTRUCTION BOOK WITH SAME LYKES AND MES NO. AS DWG. PLUS (IB).

DWG. NO.

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	Sept. 1986	SMT-95-86						

FINISHED PLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

LIST OF FINISHED PLANS

LYKES REF. NO. 010301 — MITSUI DRAWING NO. 1100051

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	010105	1100065	List of subcontractors	
	010301	1100051	List of finished plans	
	010301	1100051	List of instruction books	
	010301	1100051	List of finished plans (reproducibles)	
	010305	1000015	List of ship's particulars	
	050101	2100035	Body plan	
	070001	1102137	Docking plan	
	080203	1102201	Result of official sea trial (hull part)	
1	080205	5110008	Result of official sea trial (machinery part)	
	080208	5110009	Final inspection results for miscellaneous equipment	
	090101	1100081	General arrangement	
	110101	4102201	Hawse pipe and chain pipe	
	110102	2101021	Shell expansion	
	110201	2101101	Double bottom in hold (fore)	
	110202	2101102	Double bottom in hold (aft)	
	110203	2102111	Double bottom in engine room	
	110501	2100041	W.T. BHD. & trans. section (fore)	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	110502	2100042	W.T. BHD. & trans. section (aft)	
	110602	2101011	Cargo hold const. (No. 1 hold)	
1	110603	2101012	Cargo hold const. (No. 2 hold)	
	110604	2101013	Cargo hold const. (Nos. 3 & 4 hold)	
	110605	2101014	Cargo hold const. (No. 5 hold)	
	110606	2101015	Cargo hold const. (No. 6 hold)	
	110607	2102201	Side & deck const. in engine room (2nd & 3rd dk.)	
	110608	2102301	Upper deck in engine room	
	110701	2101711	Shaft tunnel construction	
2	111101	2100011	Midship section	
	111301	2103102	Forward machinery space construction (upper)	
	111601	2105411	Accommodation const. (saloon deck (01)) (1/7)	
	111602	2105412	Accommodation const. (crew deck (02)) (2/7)	
	111603	2105413	Accommodation const. (boat deck (03)) (3/7)	
	111604	2105414	Accommodation const. (passenger deck (04)) (4/7)	
	111605	2105415	Accommodation const. (senior officers deck (05)) (5/7)	
	111606	2105416	Accommodation const. (nav. bridge deck (06)) (6/7)	

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BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	111607	2105417	Accommodation const. (house top deck (07)) (7/7)	
	111609	2100511	Accommodation & eng. casing const. (key plan)	
	111701	2103201	Fore construction	
	111702	2104101	Aft construction	
	111703	2105101	Focsle deck construction	
2	111704	2100021	Construction profile & deck plan	
	111706	2105771	Engine casing construction	
	111708	2105702	Fan room construction	
	120001	4120901	Test results (hull outfittings)	
	120301(I)	4114301(I)	Clearview screen	
	120302(I)	4114302(I)	Window wiper	
	120303	4114205	Side scuttle & square window	
	120401	4111040	Arrangement of name & key plates	
	120402	4111042	Master key system	
3	120403	4111043	Key list for furniture	
	120501	4116280	Arrangement of bottom plug	
	120502	2100731	Container support construction	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	120503	2107311	Container support const. (No. 1 hold)	
	120504	2107312	Container support const. (No. 2 hold)	
	120505	2107313	Container support const. (Nos. 3 & 4 hold)	
	120506	2107314	Container support const. (No. 5 hold)	
3	120507	2107315	Container support const. (No. 6 hold)	
	120508	2107316	Container platform const. (including container supports)	
	120509	4104335	Container post	
	120510	4102202	Raised bellmouth box (anchor)	
	120511	2107317	Container support const. (pedestal)	
	160201	1102133	Opening arrangement on exposed part	
	160202	4103120	Hatch cover on upper deck	
	160203	2142021	Manhole arrangement (including ladder arrangement)	
4	160204	4120210	Arrangement of small hatch and door	
	160205(I)	4120213(I)	Watertight sliding door	
	160206	2101311	Hatch coaming	
	160207(I)	4120215(I)	Side port doors	
5	160209	4103122	Strength cal. of steel hatch cover	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	160210	2105701	Small house construction	
	160401	2107201	Ladder in hold	
	160402(I)	4120101(I)	Accommodation ladder	
5	160403	4120420	Arrangement of handrail and ladder	
	160404	4120105	Arrangement of pilot ladder	
	160408(I)	4120106(I)	Pilot hoist ladder	
	160501(IB)	4111650(IB)	Dumb waiter x 2	
	160502(IB)	4111950(IB)	Elevator for accommodation (No. 1) x 2	
6	160503(I)	4111953(I)	Elevator for engine room (No. 2) x 2	
	160701	4120301	Diagram of hyd. oil pipe for open/close of water tight sliding door	
	170101(I)	4101232(I)	Boatswain's store and engine room crane	
	170104(I)	5116501(I)	Overhead crane	
	170105	4101233	Jib rest for store crane	
7	170201	4120535	Arrangement of radar mast	
	170202	4120536	Arrangement of aft mast	
	170203	4120555	Antenna pole & seat of light	
	170204	4120530	Arr. of fore mast	
	170205	2142051	Mast construction	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	190101	3101001	Painting schedule	
7	190102	4116003	Pipe color identification schedule	
	190502	3106040	Test procedure and result of impressed current cathodic protection system	
	220001(I)	4117110(I)	Steering gear	
	220003	2104301	Rudder and rudder stock	
	220004	6164101	Elementary and deck wiring plan of steering gear circuit	
	220005	2103101	Forward machinery space construction (lower)	
8	240301	1102134	Maneuvering information booklet	
	240302	1102135	Maneuvering data board	
	240701(IB)	6130312(IB)	Propeller shaft revolution indicator x 2	
	240702(IB)	6130313(IB)	Rudder angle indicator	
9 not index	240703 1/2(I)	6150501 1/2(I)	Radar with auto plotting aids 1/2	
10 "	240703 2/2(I)	6150501 2/2(I)	Radar with auto plotting aids 2/2	
	240705(I)	6150503(I)	Radio direction finder	
8	240706(I)	6150504(I)	Navigation receiver, MNS 2000	
	240708(IB)	6150509(IB)	Gyro compass and auto pilot 1/3 Gyro compass, 2/3 Auto pilot, 3/3 Course recorder	
11	240709(I)	6150512(I)	Echo sounder	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	240710(I)	6150514(I)	Doppler speed log	
	240711(I)	6150519(I)	Anemometer	
	240714(I)	4117305(I)	Magnetic compass	
	240715(IB)	6150550(IB)	Voyage performance calculator x 2	
	260001	4102001	Equipment number	
	260101(I)	4101110(I)	Deck machinery	
	260102	4101401	Diagram of hydraulic oil pipe for deck machinery	
11	260103	4102220	Mooring arrangement	
	260201	4102110	Anchor and chain	
	260202	4102203	Chain controller and anchor stopper	
	260505	4102250	Detail of deck roller seating	
	270001	4104332	Arrangement of containers	
	270003	4104340	Arrangement of stage for containers	
	270004	4104360	Container fitting	
	270005	4104330	Strength calculation of container loading (3tiers stack on deck)	
12	270007	4104342	Stage for container in hold	
	270008	4104331	Strength calculation of container loading (4 tiers stack on deck)	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	270009	4104348	Arr. of stowage box for cont. loose fitting (in hold)	
	270010	4104347	Arr. of stowage box & guide stanchion for loose fitting (on deck)	
	280101	1102167	Marking for net tonnage and official number	
	280301	1102179	Bulbous bow and bow thruster mark	
	280302	2142085	[A] Tank boundary marks [B] Tug push marks	
	280304	5131104	Colour schedule of piping in engine room	
	280401	5173003	Funnel mark	
	280601	1102175	Draft marks	
12	280602	1102172	Freeboard mark	
	290101	1102051	Tank properties	
	290102	1102061	Capacity plan with deadweight scale	
	290106	1102101	Loading manual	
	290109	1102084	Cross curves of stability	
	290111	1102086	Bonjean's table	
	290112	1102102	Trim and stability booklet	
	290113	1102104	Trim and stability calculation	
	290114	1102054	Sounding tables	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	290116	2100901	Section modulus calculation	
12	290201	1102090	Trim table	
	290202	1102035	Freeboard calculation	
	290302	1102205	Stability test data	
	290701(I)	1102041(I)	Loading calculator	
	290702	1102103	Longitudinal strength calculation	
	290703	5124102	Calculation of lateral vibration	
	291301	1102081	Hydrostatic table	
	291303	1102088	Correction of displacement for trim	
13	291304	1102089	Draft correction table	
	320701	5174006	Arrangement of engineer's conference room	
	330001	4111001	Accommodation plan (second deck)(1/8)	
	330002	4111002	Accommodation plan (upper deck)(2/8)	
	330003	4111003	Accommodation plan (saloon deck (01))(3/8)	
	330004	4111004	Accommodation plan (crew deck (02))(4/8)	
	330005	4111005	Accommodation plan (boat deck (03))(5/8)	
	330006	4111006	Accommodation plan (passenger deck (04))(6/8)	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	330007	4111007	Accommodation plan (sen. off. deck (05))(7/8)	
	330008	4111008	Accommodation plan (nav. bridge deck (06))(8/8)	
	330010	4109002	Test result of noise level measurement	
13	330102	4109110	Arrangement of joiner bulkhead, deck covering & insulation	
	330103	SK-F-014	Detail of joiner work in eng. control room.	
	330104	4111035	Arrangement of accommodation door & window	
	330106	4111047	Miscellaneous joiner fittings	
	330301(I)	6150540(I)	Stereo, TV and VTR	
	330602	4111027	Steel furniture	
14	330603	4111029	Chair and sofa	
	330604	4111037	Hollow door	
15 not in box	330801	4111020	Color and material's sample of upholstery	
	340101	4111601	Galley etc. arrangement	
14	340201	4111605	Galley, etc. furniture	
16 not in box	340202(I)	4111610(I)	Galley and laundry equipment	
	340301	4113001	Arrangement of refrig. prov. store	
14	340302	4112001	Arrangement of stores	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
14	340303(IB)	4113201(IB)	Provision refrigeration plant x 2	
	360101	4111501	Plumbing fixture	
	360402	4116507	Diagram of control air piping for stopper of garbage hopper	
	380002	4106101	Arrangement of hold ventilator (incl. store space)	
	380003	4115101	Dia. & arrgt. of air cond. and vent. system for accomm. space	
	380004	4106110	Vent fan for cargo hold and duct keel	
17	~~380010~~	~~5171050~~	~~Test result of ventilation system in engine room~~	The test was not carried out on 2nd and 3rd vessels.
	380101	4115201	Axial flow fan for accomm. space.	
	380103	5116401	Engine room ventilation fan	
	380201	6119184	Room heaters	
	380202	4116417	Steam radiator for swimming pool	
	380302(IB)	4115301(IB)	Air conditioning plant for accommodation space x 2	
	380303(I)	5116821(I)	Package type air conditioner	
	380307	4115303	Diagram of control air pipe for air conditioning in accomm. space	
18	400001	5151001	Arrangement of engine room & emerg. generator room incl. flooring & vent air ducting	
	400002	5141011	Arrangement of engine control room	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	400003	5110003	Principal particulars of machinery part	
18	400004	4A16915	Arr. of forward machinery space and A/C unit room	
	400005	4A16916	Removal procedure of equipments in forward machinery space	
	400006	5112113	Spare parts list for aux. machinery	
	400007	5112114	Tool list for aux. machinery	
	400008	5116002	Shop test records for aux. in engine room	
	400009	4116560	Safety valve pressure settings	
19	410001(I)	4117150(I)	Bow thruster	
	410101	5121000	Installation of main engine	
	410501	5110004	Anticipated steam consumption table	
	410502	5110005	Heat balance & flow diagram for cooling water system	
		NOT IN BOX	Main engine component No. 1 (Code book)	
			Main engine component No. 2 (Fitting and accessories)	
			Main engine maintenance	
			Main engine operation and data	
			Main engine pneumatic maneuvering system	
			Main engine bridge maneuvering system	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
19	410503	5110006	Lubricating oil chart	
	410505	5111006	Main engine list of spare parts	
	410506	5111007	Main engine list of tool	
	410522	5116702	Main engine fresh water pre-heater	
	430101	5124200	Arrangement of shafting	
	430102	5124201	Intermediate shaft	
	430103	5124203	Propeller shaft	
	430105	5124500	Method of withdrawing propeller shaft & position of eye plate	
20	430106	5124101	Calculation of shafting alignment	
	430201	5124300	assembly of intermediate shaft bearing	
	430203	5124302	Stern tube bearing	
	430301	2104201	Stern frame & stern tube	
	430302(I)	5124304(I)	Stern tube sealing (fore and aft)	
	440001	5124100	calculation of shafting & propeller according to ABS rule	
	440002(I)	5124700(I)	Propeller	
	440003	5124800	List of spare parts & tools for shafting & propeller	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	460201	5116292	Aux. condenser vacuum pump (for IB, see lykes dwg. 470201)	
	470004	4116001	Pumping arrangement	
	470201(IB)	5116201(IB)	Electric motor driven centrifugal pumps x 2	
20	470202(I)	5116221(I)	Electric motor driven gear pumps	
	470203(IB)	5116231(IB)	Electric motor driven screw pump x 2	
	470204(IB)	5116241(IB)	Electric motor driven snake pump x 2	
	470205(IB)	5116251(IB)	Electric motor driven recipro. pump x 2	
	470206(IB)	5116202(IB)	Heeling pump x 2	
	480001	4116002	Piping practice for hull part	
	480002	4100000	Piping arrangement on upper deck (section)	
	480003	4100001	Piping arrangement on upper deck (plan)	
	480004	4100005	Piping arrangement under upper deck passage (1/3 - 3/3)	
22	480007	4100025	Piping arrangement in steering gear room (including aft pump units)	
	480008	4100030	Piping arrangement on bulkhead (1/7 - 7/7)	
	480009	4100050	Piping arrangement in double bottom tank including duct keel (plan)	
	480010	4100051	Piping arrangement in double bottom tank including duct keel (section)	
	480011	4100010	Piping arrangement on focsle deck (incl. boats'n store and fwd. pump unit space)	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	480013	4100039	Piping arrangement in No. 6 hold (incl. passage & void sp.)	
	480014	4100037	Piping arrangement in No. 1 hold (incl. coff.)	
	480015	4100038	Piping arrangement in No. 2 hold	
	480016	4100041	Piping arrangement in No. 3 hold	
	480017	4100042	Piping arrangement in No. 4 hold (incl. No. 4 fore wing W. B. TK.)	
	480101	4116201	Dia. of bilge, ballast & fuel oil lines including anti - heeling system	
	480102	5131020	Bilge and waste oil disposal piping diagram in engine room	
	480103	4100060	Piping arrangement in forepeak tank & deep W. B. tank	
23	480104	4100070	Piping arrangement in aft peak tank	
	480105	4100071	Piping arrangement in cool. water tank	
	480106(I)	5116801(I)	Bilge separator	
	480107	4100054	Piping arrangement in no.3 fore and no.3 aft wing fuel oil tk.	
	480201	5131001	Feed & condensate piping diagram in engine room	
	480202	6149461	Oil content detector in feed line	
	480301	5131019	Fire, G. S. & ballast piping diagram in engine room	
	480302	4116101	Dia. of fire & wash deck line & arrangement of fire extinguishers	
	480303	4116123	Strainer for fire line (in fwd. mach. sp.)	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	480401	5131023	F.W. service piping diagram in engine room	
	480402	4116401	Dia. of fresh, hot, potable water & steam pipe for accomm. use	
	480403	5131016	Cooling F.W. piping diagram in engine room	
23	480404	4116411	Calorifier (hot water heater) in engine room and FWD. mach. space.	
	480406	5116826	Hydrophore unit (for IB, see lykes dwg. 470201)	
	480407	4116418	Reducing & relief valves for accomm. steam service	
	480501	5131018	Cool. S.W. & S.W. service piping diagram in engine room	
	480502	5131106	List of spare parts for piping system in engine room	
	480503(I)	5116711(I)	Plate type heat exchanger	
	480701	4116501	Dia. of drain and soil pipe for accomm. space	
	480702(I)	4116505(I)	Sewage treatment plant	
24	480801	4116601	Arrangement of exposed deck scupper pipes (including ref. container drain pipes)	
	480802	5131008	Steam drain piping diagram in engine room	
	480901	4116701	Dia. of air, sounding & filling pipes	
	481001	5131002	Steam and exhaust piping diagram in engine room	
	481301	4116801	Dia. of heating system in fuel oil tank	
	481401	5131009	L.O. service piping diagram in engine rm	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	481402	5131012	L.O. transfer & purification piping diagram in engine room	
	481501	5131013	F.O. service piping diagram in engine room	
	481502	5131015	F.O. purification piping diagram in engine room	
	481504	4100075	Piping arrangement in deep fuel oil tank	
	481505	5181001	Arrangement and detail of fitting attached to F.O. settling tank (S) and serv. tank(S)	
24	481506	5181002	Arrangement of heating coil in F.O. settl. (S) and serv. tank	
	481509	5131014	F.O. transfer piping diagram in engine room	
	481511	5181003	Arrangement & detail of fitting attached to F.O. settling tank (P)	
	481512	5181004	Arrangement of heating coil in F.O. settling tank (P)	
	481801	4117401	Dia. of compressed air line	
	481802	5131024	Compressed air piping diagram in engine room	
	481803	5131025	Control air piping diagram in engine room	
	481804	5131026	Main engine remote control air piping diagram	
	481901	4116301	Dia. of hydraulic oil pipe for valve remote control system	
25	482201	4116705	Dia. of pneumacator pipes (incl. draught)	
	482203	4116105	Dia. of central cleaning system	
	482204(I)	4116108(I)	Central cleaning system	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	482303(I)	5233406(I)	Main engine L.O. discharge filter (auto)	
	482304(I)	5233702(I)	Flow meter (in engine room)	
25	482305	4116214	Bellows type expansion joint	
	482306	4116215	Dresser type expansion joints	
	482401(IB)	4116310(IB)	Valve remote control system for ballast and fuel oil line (1/3, 2/3)	
26	482401(IB)	4116310(IB)	Valve remote control system for ballast and fuel oil line (3/3)	
27	482403	4116211	Hydraulic operated valve for ballast and fuel oil line	
	482408	5233115	Emergency shut off valves for F.O. tanks	
	482411(I)	5233201(I)	Air operated automatic control valves	
	482412(I)	5233206(I)	Secondary pressure regulating valves	
	482413(I)	5233212(I)	Steam trap	
	482425	4216301	Position for valve & detail pieces attached on hull (hull part)	
26	482427	4A16950	Position for valve & detail of pieces attached on hull in fwd mach. space	
	482429	4116120	Pressure reducing valve for fire line (in fwd. mach. sp.)	
	482430	4116121	Pressure control valve for fire line (in fwd. mach. sp.)	
	482431	4116122	Relief valve for fire line (in fwd. mach. sp.)	
	482432	4116103	Remote control butterfly valves for fire line in fwd. mach. room	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	482434	4116405	Butterfly valves in fwd. mach. space and for acc. space (except attached on vessel's shell)	
26	482435	4116406	Remote control butterfly valves for sea valves in fwd. mach. space	
	482501	4117410	Whistles	
	482601	4116004	Comparison of ASTM and JIS material (for pipe joints)	
	482602	4116005	Specification of non standard pipe joints for steel pipes	
	482603	4116006	Specification and comparison table (JIS/ASTM) of bolts & nuts	
	482604	4116007	Specification of non standard pipe joints for copper nickel pipes	
	482610	4116402	Diagram of remote control air piping for sea valves in fwd. mach. space	
28	482613	5233823	Flexible joint (stainless tube) (sea chest cleaning/charging air of f.w. hyd. tk)	
	482701	4A16901	Fitting arr. of duct & piping for acc. spaces (upper deck p.side) 1/11	
	482702	4A16902	Fitting arr. of duct & piping for acc. spaces (upper deck s.side) 2/11	
	482703	4A16903	Fitting arr. of duct & piping for acc. spaces (saloon deck) 3/11	
	482704	4A16904	Fitting arr. of duct & piping for acc. spaces (crew deck) 4/11	
	482705	4A16905	Fitting arr. of duct & piping for acc. spaces (boat deck) 5/11	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	482706	4A16906	Fitting arr. of duct & piping for acc. spaces (passenger deck) 6/11	
	482707	4A16907	Fitting arr. of duct & piping for acc. spaces (senior officer deck) 7/11	
28	482708	4A16908	Fitting arr. of duct & piping for acc. spaces (nav. bridge deck) 8/11	
	482709	4A16909 1/2	Fitting arr. of duct & piping for acc. spaces (2nd deck) 9/11	
	482709	4A16909 2/2	Fitting arr. of duct & piping for acc. spaces (CO_2 bottle room) 9/11	
	482710	4A16910 1/2	Fitting arr. of duct & piping for acc. spaces (3rd deck) 10/11	
	482710	4A16910 2/2	Fitting arr. of duct & piping for acc. spaces (fwd. mach.space) 11/11	
	490101(I)	5116102(I)	Main air compressor	
	490102(I)	5116103(I)	Topping up air compressor	
	490103(I)	5116104(I)	Control air compressor	
29	490104(I)	5116105(I)	Ship service air compressor	
	490105(I)	5116106(I)	Emergency air compressor	
	490107(I)	5116806(I)	Control air dehydrator	
	490201	5117101	Air reservoir	
	510102(IB)	5115201(IB)	Exhaust gas economizer x 2	
	510105	5116701	Tubular type heat exchanger	
	510201(IB)	5115101(IB)	Auxiliary boiler x 2	
30	520001	5131030	Exhaust gas piping diagram in engine room	
	520002	2107601	Funnel construction	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
30	550201(I)	5233407(I)	Main engine F.O. secondary filter (auto)	
	550203(I)	5233415(I)	Fuel oil filtrator unit	
	550301	5116721	Oil heaters	
31	550501(IB)	5116302(IB) 5116303(IB) 5116304(IB)	F.O., L.O. and D.O. purifiers (as for details, see next page)	
	550504	5116311	Automatic control device of purifier	
	550506(I)	5116831(I)	Fuel oil blending unit	
	550507(IB)	5141131(IB)	F.o. viscosity control device for M/E x 4	
	580101	5115301	Flasher	
	580401(IB)	5116731(IB)	Fresh water generator x 2	
32	600003	6100091	Test record of electric equipment	
	610001	6110071	Electric power consumption table	
	610101(IB)	5113001(IB)	Emergency generator engine x 2	
	610105(I)	6119175(I)	Main and emergency generator	
	610112(I)	6110116(I)	Bow thruster starter	
33	610201(IB)	5112101(IB)	Generator diesel engine x 3	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	550501(IB)	5116302 5116303 5116304	Fuel oil purifier, diesel oil purifier, lubricating oil purifier	
	550501(IB)	5116303 5116304	Maintenance repair (d.o. purifier, l.o. purifier)	
	550501(IB)	5116303 5116304	Instruction book for epc cont. system (d.o. purifier, l.o. purifier)	
	550501(IB)	5116303 5116304	Operator's manual (d.o. purifier, l.o. purifier)	
	550501(IB)	5116302	Instruction book for alcap system (f.o. purifier)	
	550501(IB)	5116302	Maintenance repair (f.o. purifier)	
	550501(IB)	5116302	Spare parts catalogue (f.o. purifier)	
	550501(IB)	5116303	Spare parts catalogue (d.o. purifier)	
	550501(IB)	5116304	Instruction book for emerg. alarm device (aux. l.o. purifier)	
	550501(IB)	5116304	Maintenance repair (aux. l.o.purifier)	
	550501(IB)	5116304	Operator's manual (aux. l.o.purifier)	
	550501(IB)	5116304	Spare parts catalogue (aux. l.o. purifier)	
	550501(IB)	5116304	Spare parts catalogue (l.o. purifier)	
	550501(IB)	5116311	Automatic control device of oil purifiers	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
34	610204(I)	5112201(I)	Generator turbine	
35.36 NOT IN BOX	610208(I)	6119176(I)	Shaft generator	
	610211	5112112	Shop test record for diesel generator engine	
	610212	6110091	Test record of generator on board and sea trial	
	620001	6162101	Arrangement of electric equipment Engine room floor & shaft tunnel	
34	620002	6130340	W/H group panel	
	620003	6162201	Arrangement of electric equipment (accom. second deck)	
	620004	6160015	Specification of electric cable	
	620006	6162121	Arrangement of electric equipment Engine room 3rd deck	
	620007	6162321	Arrangement of electric equipment Radio room	
37	620008	6162131	Arrangement of electric equipment Engine room 2nd deck	
	620009	6162501	Arrangement of electric equipment Upp. dk fore & No.1 - 3 hold	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	620010	6162141	Arrangement of electric equipment Engine room partial Dk.	
	620011	6162151	Arrangement of electric equipment Engine room upper parts	
	620012	6162211	Arrangement of electric equipment (accom. upper Dk)	
	620013	6162221	Arrangement of electric equipment (accom. saloon Dk)	
37	620014	6162231	Arrangement of electric equipment (crew Dk)	
	620015	6162241	Arrangement of electric equipment (boat Dk)	
	620016	6162251	Arrangement of electric equipment (passenger Dk)	
	620017	6162261	Arrangement of electric equipment (senior officers Dk)	
	620018	6162271	Arrangement of electric equipment (nav. bridge Dk)	
	620019	6162341	Arrangement of electric equipment Battery room	
	620020	6162351	Arrangement of electric equipment Electric room	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	620022	6162511	Arrangement of electric equipment Upper deck aft & No.6 hold	
	620023	6162531	Arrangement of electric equipment Upper deck mid. & No. 4, 5 hold	
	620024	6162551	Arrangement of electric equipment Duct keel	
	620025	6162561	Arrangement of electric equipment Steering gear room	
	620026	6162571	Arrangement of electric equipment FWD mach. space & A/C unit room	
37	620027	6110140	Transformers	
	620028	6110023	Calculation of transformer capacity	
	620030	6162281	Arrangement of electric equipment (house top)	
	620031	6162331	Arrangement of electric equipment FWD swbd. room	
	620032	6162581	Arrangement of electric equipment Focsle deck & Bosn's store	
	620033	6162301	Arrangement of electric equipment radar mast	
	620051	6162311	Arrangement of electric equipment wheel house	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
37	620101	6110025	Selective operation under short circuit cond.	
38	620102(IB)	6110101(IB)	Main switchboard	
	620103(IB)	6110102(IB)	Emergency switchboard	
	620104	6110105	AC 120V section board	
	620106(IB)	6110135(IB)	Battery switchboard	
39	620107	6110144	Power distribution board	
	620108	6110148	Test panel	
	620109	6120280	AC 120V lighting distribution board	
	620110	6110103	Forward switchboard	
	620111(IB)	6110115(IB)	Starter & group starter panel	
40	620114	6149452	FWD machinery space alarm panel	
	620115	6149455	Bilge well suction valve control panel	
	620201	6110001	One line diagram of electric power system	
	620202(I)	3106020(I)	Impressed current cathodic protection system	
	620203	6160002	Typical practice of cable installation	
41	620204	6160003	Cable penetration for Dk & BHD	
	620205	6110022	Calculation of short circuit current	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	620207	6164010	Deck wiring plan of electric power system Engine room Floor	
	620208	6164051	Deck wiring plan of electric power system Focsle deck & Bosn's store	
	620209	6164023	Deck wiring plan of electric power system (crew Dk)	
	620210	6164012	Deck wiring plan of electric power system Engine room 3rd dk	
	620211	6164052	Deck wiring plan of electric power system Upper deck mid & No. 1-5 hold	
41	620212	6164053	Deck wiring plan of electric power system Upper deck aft & No. 6 hold	
	620213	6164013	Deck wiring plan of electric power system Engine room 2nd deck	
	620214	6164015	Deck wiring plan of electric power system Engine room upper	
	620215	6164021	Deck wiring plan of electric power system (accom. upper deck)	
	620216	6164024	Deck wiring plan of electric power system (boat deck)	
	620217	6164025	Deck wiring plan of electric power system (passenger deck)	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	620218	6164026	Deck wiring plan of electric power system (senior officers deck)	
	620219	6164027	Deck wiring plan of electric power system (nav. bridge deck)	
41	620220	6110170	Refrig. container receptacle	
	620222	6100041	List of tools electric part	
	620223	6164020	Deck wiring plan of electric power system (accom. second deck)	
	620224	6164022	Deck wiring plan of electric power system (accom. saloon deck)	
	620225	6164014	Deck wiring plan of electric power system Engine room partial deck	
	620226	6110041.	List of electric spare parts (power system)	
	620227	6164054	Deck wiring plan of electric power system Steering gear room	
42	620228	6164055	Deck wiring plan of electric power system FWD mach. space & A/C unit room	
	620229	6164030	Cable number list of electric power system (acc. space)	
	620230	6162191	Cable number list of electric power system (engine room)	
	620231	6164028	Deck wiring plan of electric power system fwd. swbd. rm.	

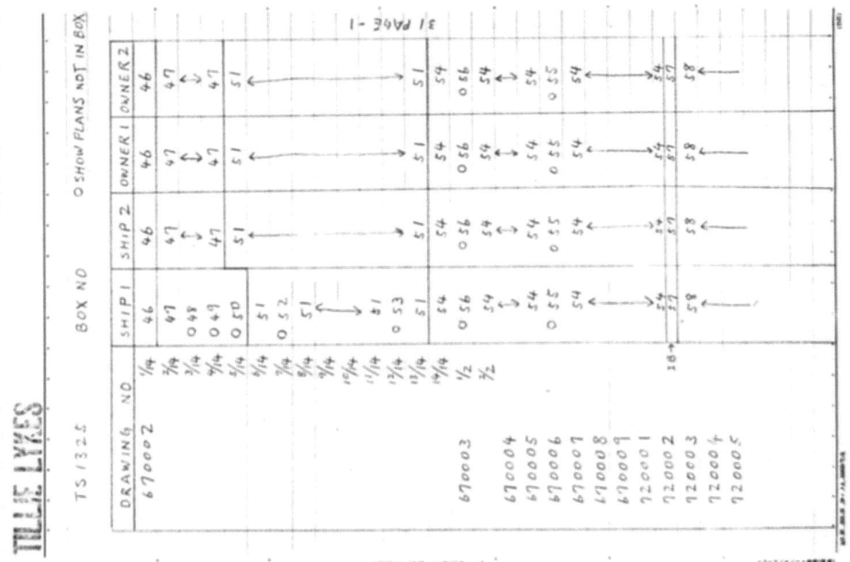
BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	620232	6164029	Deck wiring plan of electric power system (electric room)	
	620233	6120259	Wiring equipment	
	620234	6162192	Cable number list of instrument & communication system (engine room)	
42	620235	6162291	Cable number list of instrument & communication system (acc. space)	
	620236	6110093	Test record of insulation resistance	
	620237	6110011	Connection diagram of electric power system	
	620301	6110024	Calculation of battery capacity	
	620302(I)	6110131(I)	Batteries	
	630101(I)	6119180(I)	Motors	
	640101	6120001	One line diagram of electric lighting system	
	640102	6120021	Arrangement of navigation light	
43	640103	6164252	Deck wiring plan of electric lighting system Upper deck mid. & No.1 - 5 hold	
	640104	6120200	Major lighting fixtures	
	640105	6164251	Deck wiring plan of electric lighting system Focsle deck & bosn's store	
	640106	6164212	Deck wiring plan of electric lighting system Engine room 3rd deck	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	640107	6164213	Deck wiring plan of electric lighting system Engine room 2nd deck	
	640108	6164253	Deck wiring plan of electric lighting system Upper deck aft. & No. 6 hold	
43	640109	6164210	Deck wiring plan of electric lighting system Engine room floor & shaft tunnel	
	640110	6164215	Deck wiring plan of electric lighting system Engine room upper deck	
	640111	6164221	Deck wiring plan of electric lighting system (accom. upp. deck)	
	640112	6164223	Deck wiring plan of electric lighting system (crew deck)	
	640113	6164224	Deck wiring plan of electric lighting system (boat deck)	
44	640114	6164225	Deck wiring plan of electric lighting system (passenger deck)	
	640115	6164226	Deck wiring plan of electric lighting system (senior officers deck)	
	640116	6164227	Deck wiring plan of electric lighting system (nav. bridge deck)	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
45 NOT IN BOX	650301(I)	6130301(I)	Sound power telephone	
44	650401	6164131	Elementary and deck wiring plan of fire detect. & alarm system	
	650402	6140001	One line diagram of instrument & alarm system	
	~~651403~~	~~6164121~~	~~Elementary and deck wiring plan of general alarm system~~	
	650404	6130317	General alarm system	
	650405	6140041	List of electric spare parts (instrument & alarm system)	
46	650406	6140011	Connection diagram of instrument & alarm system	
	650501(I)	6130337(I)	Electric clock	
	651403	6164121	Elementary and deck wiring plan of general alarm system	
	660001	4120555	Antenna pole and seat of light	
	670001	6150051	Arrangement of antenna	
1/14	670002(IB)	6150530(IB)	Radio station split up over other boxes	
	670002(IB)	6150530(IB)	Radio station 14/14	
	670003 1/2(I)	6150532 1/2(I)	VHF radio telephone 1/2 222A	
SEE	670003 2/2(I)	6150532 2/2(I)	VHF radio telephone 2/2 mariner 90	
NEXT PAGE	670004	6150537	Radio and TV antenna multi-coupler	
	670005(I)	6150545(I)	Facsimile	
	670006(I)	6150547(I)	Satellite communication system	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	670007	6150005	One line diagram of radio system	
	670008	6150091	Test record of radio direction finder	
	670009	6150012	Connection diagram of radio system	
	720001	5141001	Automation table (machinery part)	
	720002	6130341	Bridge console	
	720003(IB)	6140422(IB)	Engine room monitoring system (including reefer monitor)	
	720004(IB)	6149450(IB)	ECR console	
	720005	6130343	Bridge wing console	
	720006	6130342	Navigation console	
	720007	6130350	Multi-core cable junction box & wiring connections	
	720008(I)	6149460(I)	Salinity indicator	
	720009(I)	6149465(I)	Pressure transmitter	
58	720010	6149467	Pressure switch	
	720011(I)	6149469(I)	Thermocouple & resistance bulb	
	720012	6149471	Temperature switch	
	720013	6149473	Float switch	
	720016	5000000	Maintenance program for U.S.C.G.	
	720017	5141031	Machinery part test results of automation & instrumentation	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	640117	6164214	Deck wiring plan of electric lighting system Engine room partial deck	
	640118	6164220	Deck wiring plan of electric lighting system (accom. second deck)	
	640119	6164222	Deck wiring plan of electric lighting system (accom. saloon deck)	
	640120	6120041	List of electric spare parts (lighting system)	
44	640121	6164228	Deck wiring plan of electric lighting system (house top)	
	640122	6164255	Deck wiring plan of electric lighting system FWD mach. space & A/C unit room	
	640123	6164254	Deck wiring plan of electric lighting system Steering gear room	
	650001	6130001	One line diagram of I.C. & nautical system	
	650002	6130041	List of electric spare parts (I.C. & nautical)	
	650003	6150042	List of electric spare parts (Radio system)	
	650005	6130011	Connection diagram of I.C. & nautical system	
	650101	6164111	Elementary and deck wiring plan of sound powered telephone	
	650102(I)	6130303(I)	Automatic telephone	
	650201(I)	6130305(I)	Public addressor and talk back system	



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BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
60	930006	4119311	Fire extinguishers - portable and non-portable	
	930007	4119312	Fireman's outfit (protection cloth, boots & gloves hand axe)	
	930008(I)	6139390(I)	Fire detecting & alarm system	
	930009	4109101	Construction of fire protection	
	930010	4115205	Fire damper (auto) in acc. space (ventilation system)	
	930013	4A16958	Arrangement of fire control station	
	930014	6110118	Fire control panels (fire cont. sta. & fire equip. rm.)	
	930015	6130344	W/H fire control panel	
	940002	4120001	Escape route	
	940003	1100073	Emergency data (fire, safety & damage stability)	
			Engineer's operating manual (VOL. I, II, III and IV)	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
58	720018	5141032	Machinery part test results of automation & instrumenlation (U.S.C.G. biennial inspection)	
	820001	4118101	Lifesaving arrangement	
59	820201(IB)	4118110(IB)	Boat davit and winch x 2	
	820301(IB)	4118105(IB)	Lifeboat x 2	
	870001(I)	5124400(I)	Torsion meter	
	910101(I)	5116601(I)	Universal machine tool	
	910102(I)	5116611(I)	Grinder	
	910104	5174002	Arrangement and fittings for engine works shop and stores	
	910105(I)	6119183(I)	Electric welder	
	920001	4120781	Spare parts & tool list - outfit, hull piping & equipment accomm. piping & equipment, accom. interior equip.	
	920007	5131107	List of general tools and fittings in engine room	
	920301	4120780	Inventory of stores	
60	930002(I)	4119111(I)	Co2 fire extinguishing system	
	930003	4119101	Dia. of Co2 fire extinguishing system	
	930005	4119106	Piping arrangement in Co2 cylinder room	

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GENERAL NOTE

PREPARED FOR S.1323 AS FINISHED PLAN, MADE APPLICABLE TO TO S.1324 AND S.1325.

ALL SEPARATE INSTRUCTION BOOK SHALL HAVE SAME LYKES AND MES NOS. BUT SEPARATE BOOK WILL HAVE (IB) AFTER LYKES AND MES NO.

WHERE LISTED PLAN CONTAINS INSTRUCTION BOOK (NOT SEPARATE) PLAN WILL HAVE (I) AFTER BOTH LYKES AND MES PLAN NO.

FINISHED PLAN LIST WILL SHOW (I) OR (IB).

LIST WILL HAVE NOTE:
(I) INDICATES INSTRUCTION BOOK IS CONTAINED IN PLAN
(IB) INDICATES THERE IS SEPARATE INSTRUCTION BOOK WITH SAME LYKES AND MES NO. AS DWG. PLUS (IB).

LIST WILL SHOW LYKES & MES DWG. NO. WITH (I) OR (IB) WITH LIST IN ALPHABETICAL ORDER.

DWG. NO.

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL								

FINISHED PLAN

SHIPYARD AND SHIP'S NO. & NAME	
MITSUI TAMANO	MITSUBISHI KOBE
NO.1323 DOCTOR LYKES	NO.1158 JAMES LYKES
NO.1324 ALMERIA LYKES	NO.1159 JOSEPH LYKES
NO.1325 TILLIE LYKES	NO.1164 SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD. TAMANO WORKS

SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

LIST OF INSTRUCTION BOOKS

SHIP DESIGN DEPARTMENT — CO-ORDINATION SECTION

LYKES REF. NO. 010301 — MITSUI DRAWING NO. 1100051

SHEETS WITH COVER)

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	380302(I)	4115301(I)	AIR CONDITIONING PLANT - ACCOMMODATION	TAKATORI MANUFACTURING CO., LTD.
	380303(I)	5116821(I)	AIR CONDITIONER - ENGINE ROOM, ENGINEER'S CONFERENCE ROOM	TOYO ENGINEERING WORKS LTD.
	630404(I)	6130317(I)	ALARM SYSTEM, GENERAL	HOSE M. CANN TELEPHONE CO., LTD.
	240708(IB)	6150509(IB)	AUTO PILOT	TOKYO KEIKI CO., LTD.
	620302(I)	6110131(I)	BATTERIES - ELECTRIC	JAPAN STORAGE BATTERY CO., LTD.
	550506(I)	5116831(I)	BLENDING UNIT - FUEL OIL	DODWELL & CO., LTD.
	510201(IB)	5115101(IB)	BOILER AUXILIARY	MITSUBISHI HEAVY INDUSTRIES, LTD.
	510102(IB)	5115201(IB)	BOILER EXHAUST GAS	MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
	410001(I)	4117150(I)	BOW THRUSTER	MITSUBISHI HEAVY INDUSTRIES, LTD.

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	610112(I)	6110116(I)	BOW THRUSTER STARTER	
	620202(I)	3106020(I)	CATHODIC PROTECTION SYSTEM	NIPPON CORROSION ENGINEERING CO., LTD.
	482204(I)	4116108(I)	CLEANING - CENTRAL SYSTEM	ELECTROLUX MARINE (SWEDEN)
	120301(I)	4114301(I)	CLEARVIEW SCREEN	NUNOTANI HAKUYO KEIKI KOGYO CO., LTD.
	650501(I)	6130337(I)	CLOCK - ELECTRIC CENT. SYS.	SEIKOSHA CO., LTD.
	240713(I)	4117301(I)	COMPASS - MAGNETIC	NUNOTANI HAKUYO KEIKI KOGYO CO., LTD.
	490103(I)	5116103(I)	COMPRESSOR AIR-CONTROL	NASH ENGINEERING CO., LTD. (U.S.A.)
	490105(I)	5116106(I)	COMPRESSOR AIR-EMERG.	TANABE PNEUMATIC MACHINERY CO., LTD.
	490101(I)	5116102(I)	COMPRESSOR AIR-MAIN	TANABE PNEUMATIC MACHINERY CO., LTD.

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	490104(I)	51161[illegible](I)	COMPRESSOR AIR-SHIP'S SERVICE	MACHINERY CO., LTD.
	490102(I)	5116103(I)	COMPRESSOR AIR-TOPPING UP	TANABE PNEUMATIC MACHINERY CO., LTD.
	240715(IB)	6150550(IB)	COMPUTER - VOYAGE PERFORMANCE	TOKYO KEIKI CO., LTD.
	490107(I)	5116806(I)	CONTROL AIR DEHYDRATOR	HANKISON
	720004(IB)	6149450(IB)	CONTROL CONSOLE - ENG. RM	TERASAKI ELECTRIC CO., LTD.
	170101(I)	4101232(I)	CRANE - BOSNS STORES	DODWELL & CO., LTD. (LICENSEE OF SCHAT DAVIT)
	170104(I)	5116501(I)	CRANE - ENGINE ROOM (INTERIOR)	SEKIGAHARA SEISAKUSHO CO., LTD.
	170101(I)	4101232(I)	CRANE - ENGINE ROOM (EXTERIOR)	DODWELL & CO., LTD. (LICENSEE OF SCHAT DAVIT)

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	820201(I)	4118110(I)	DAVIT - LIFEBOAT	HARDING SAFETY, INC(SCHAT DAVIT LTD.)
	260101(I)	4101110(I)	DECK MACH. (WINDLASS & WINCH)	FUKUSHIMA LTD.
	160207(I)	4120215(I)	DOORS - SIDEPORT	NAKA IRON WORKS CO., LTD.
	160205(I)	4120213(I)	DOOR - WATERTIGHT	WALZ & KRENZER, INC.
	160501(I)	4111650(I)	DUMB WAITER	NIPPON ELEVATOR IND. CO., LTD.
	240709(I)	6150512(I)	ECHO SOUNDER	FURUNO ELECTRIC CO., LTD.
	160502(IB)	4111950(IB)	ELEVATOR - ACCOMMODATION	NIPPON ELEVATOR IND. CO., LTD.
	160503(I)	4111953(I)	ELEVATOR - ENG. ROOM	DO.
	610101(IB)	5113001(IB)	ENGINE - DIESEL - EMERGENCY	GENERAL MOTORS CORPORATION

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	610201(I)	51131[illegible](I)	ENGINES - DIESEL - MAIN GENERATORS	DAIHATSU DIESEL MFG. CO., LTD.
			ENGINE - MAIN ENGINE - BRIDGE MANEUVERING SYSTEM	MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
			ENGINE - MAIN ENGINE - COMPONENT NO. 1 (CODE BOOK)	DO.
			ENGINE - MAIN ENGINE - COMPONENT NO. 2 1/2 (FITTING & ACCESSORIES)	DO.
			ENGINE - MAIN ENGINE - COMPONENT NO. 2 2/2 (FITTING & ACCESSORIES INCL. SHAFT GENERATOR)	DO.
			ENGINE - MAIN ENGINE - MAINTENANCE	DO.
			ENGINE - MAIN ENGINE - OPERATION AND DATA	DO.
			ENGINE - MAIN ENGINE - PNEUMATIC MANEUVERING SYSTEM	DO.
	550203(I)	5233415(I)	FILTER - F.O. FILTRATOR (ENGINE ROOM)	MISUZU MACHINERY & ENGINEERING LTD.
	550201(I)	5233407(I)	FILTER - M/E F.O.	DO.

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	482303(I)	[illegible]	FILTER - M/E L.O. DISCHARGE	NIIKURA KOGYO CO., LTD.
	930008(I)	6135390(I)	FIRE DETECTION AND ALARM SYSTEM	FENWALL INCORPORATED
	930002(I)	4119111(I)	FIRE EXTINGUISHING - CO_2 SYSTEM	CHEMETRON FIRE SYSTEM INC. (U.S.A.)
	340202(I)	4111610(I)	FOUNTAINS - DRINKING WATER	ELKAY MFG., CO., U.S.A.
	340202(I)	4111610(I)	GALLEY & PANTRY EQUIP.	HOBART CORP., ETC.
	6101[illegible](I)	6119175(I)	GENERATORS - ELECTRIC - MAIN AND EMERG.	SHINKO ELECTRIC CO., LTD.
	610208(I)	6119176(I)	GENERATOR - ELECTRIC - SHAFT	SIEMENS
	580401(IB)	5116711(IB)	GENERATOR - FRESH WATER	NAGASE-ALFA K.K. (NIREX)
	910101(I)	5116611(I)	GRINDER	DAINICHI KINZOKU KOGYO CO., LTD.

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BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	620111(IB)	6110115(IB)	GROUP STATER PANEL	TERASAKI ELECTRIC CO., LTD.
	480503(I)	5116711(I)	HEAT EXCHANGER - PLATE TYPE	HISAKA WORKS, LTD.
	240702(IB)	6130313(IB)	INDICATOR - RUDDER ANGLE	NUNOTANI NAUTICAL INSTRUMENT MFG. CO., LTD.
	720008(I)	6149460(I)	INDICATOR - SALINITY IND.-	RIKADENKI KOGYO CO., LTD.
	240701(IB)	6130312(IB)	INDICATOR - SHAFT REVOLUTION	NUNOTANI NAUTICAL INSTRUMENT MFG. CO., LTD.
	160402(I)	4120101(I)	LADDERS - ACCOMMODATION	NAKANO SEISAKUSHO CO., LTD.
	160408(I)	4120106(I)	LADDERS - PILOT HOIST	CHUO KOGYO CO., LTD.
	340202(I)	4111610(I)	LAUNDRY (SHIP'S) EQUIP.	UNIMAC CO., INC., U.S.A.HUEBSCH

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	820301(I)	4118105(I)	LIFEBOAT	HARDING SAFETY, INC. U.S.A.
	820302(I)	4118201(I)	LIFERAFT	RFD ELLIOT
	290701(I)	1102041(I)	LOADING CALCULATOR	MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
	482304(I)	5233702(I)	METERS - FLOW	NITTO SEIKO CO., LTD.
	870001(I)	5124400(I)	METER - SHAFT HORSE POWER	EKL
	720003(IB)	6140422(IB)	MONITORING SYSTEM - ENGINE ROOM	GENERAL ELECTRIC COMPANY
	720003(IB)	6140422(IB)	MONITORING SYSTEM - REF. CONTAINERS	GENERAL ELECTRIC COMPANY
	630101(I)	6119180(I)	MOTOR	SHINKO ELECTRIC CO., LTD.
	240706(I)	6150504(I)	NAVIGATION RECEIVER DECCA MNS2000	RACAL DECCA
	620102(IB)	6110101(IB)	POWER MANAGEMENT SYSTEM	TERASAKI ELECTRIC CO., LTD.

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	720009(I)	61[illegible]94[illegible]5(I)	PRESSURE TRANSMITTERS - ENG. RM.	MEIYO ELECTRIC CO., LTD.
	440002(I)	5124700(I)	PROPELLER	STONE MANGANESE
	650201(I)	6130365(I)	PUBLIC ADDRESS SYSTEM	KYORITSU RADIO CO., LTD.
	470201(IB)	5116201(IB)	PUMPS - CENTRIFICAL	SHINKO KINZOKU INDUSTRIES CO., LTD.
	470202(I)	5116221(I)	PUMPS - GEAR	TAIKO KIKAI INDUSTRIES CO., LTD.
	470206(IB)	5116202(IB)	PUMPS - HEELING	FRANK MOHN
	470205(I)	5116251(I)	PUMPS - RECIPROCATING	HEISHIN PUMP WORKS CO., LTD.
	470203(IB)	5116231(IB)	PUMPS - SCREW	TAIKO KIKAI INDUSTRIES CO., LTD.
	470204(IB)	5116241(IB)	PUMPS - SNAKE	DO.

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	550502(IB) 450301(IB)	5116303(IB) 5116304(IB)	PURIFIER - DIESEL OIL - MOPX 207 & MOPX 310 MAINTENANCE LUB. OIL REPAIR	NAGASE-ALFA K.K. (ALFA-LAVAL)
	550502(IB) 450301(IB)	5116303(IB) 5116304(IB)	PURIFIER - DIESEL OIL - MOPX 207 & MOPX 310 OPERATOR'S LUB. OIL MANUAL	DO.
	550502(IB)	5116303(IB)	PURIFIER - DIESEL OIL - MOPX 207 SPARE PARTS CATALOGUE	DO.
	550502(IB) 450301(IB)	5116303(IB) 5116304(IB)	PURIFIER - EPC CONTROL SYSTEM	DO.
	550501(IB)	5116302(IB)	PURIFIER - FUEL OIL - FOPX 613 ALCAP SYSTEM	DO.
	550501(IB)	5116302(IB)	PURIFIER - FUEL OIL - FOPX 613 MAINTENANCE REPAIR	DO.
	550501(IB)	5116302(IB)	PURIFIER - FUEL OIL - FOPX 613 SPARE PARTS CATALOGUE	DO.
	450301(IB)	5116304(IB)	PURIFIER - LUBE OIL - EMERGENCY ALARM DEVICE	DO.
	450301(IB)	5116304(IB)	PURIFIER - LUBE OIL - MAPX 204 MAINTENANCE REPAIR	DO.
	450301(IB)	5116304(IB)	PURIFIER - LUBE OIL - MAPX 204 OPERATOR'S MANUAL	DO.

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	482401(IB)	4116310(IB)	REMOTE CONTROL (VALVES) SYSTEM	DANFOSS(JAPANESE MAKE)
	430302(I)	5124304(I)	SEALS - STERN TUBE	KOBE STEEL LTD.
	480106(I)	5116801(I)	SEPARATOR - BILGE	HEISHIN PUMP WORKS CO., LTD.
	480702(I)	4116505(I)	SEWAGE TREATMENT PLANT	SIGMA CHAPMAN, INC. (OMNIPURE)
	240711(IB)	6150519(IB)	SPEED INDICATOR - ANEMOMETER	KOSHIN DENKI KOGYO CO., LTD.
	240710(I)	6150514(I)	SPEED INDICATOR - DOPPLER	FURUNO ELECTRIC CO., LTD.

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	450301(IB)	5116304(IB)	PURIFIER - LUBE OIL - MAPX 204 SPARE PARTS CATALOGUE	NAGASE-ALFA K.K. (ALFA-LAVAL)
	450301(IB)	5116304(IB)	PURIFIER - LUBE OIL - MOPX 310 SPARE PARTS CATALOGUE	DO.
	240703 1/2(I)	6150501 1/2(I)	RADAR AND ARPA	SELESMAR
	240703 2/2(I)	6150501 2/2(I)	RADAR AND AUTOTRACK	DO.
	240705(I)	6150503(I)	RADIO - DIRECTION FINDER	ITT MACKAY
	670005(IB)	6150545(IB)	RADIO - FACSIMILE	JAPAN RADIO CO., LTD.
	670002(IB)	6150530(IB)	RADIO - MAIN & AUX	ITT MACKAY
	670006(I)	6150547(I)	RADIO - SATELLITE COMM.	ITT MACKAY
	670003 1/2(I)	6150532 1/2(I)	RADIO - VHF, 222A	DO.
	670003 2/2(I)	6150532 2/2(I)	RADIO - VHF, MARINER 90	DO.
	670002(IB)	6150530(IB)	RADIO - WATCH STANDING	ITT MACKAY

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	620102(IB)	6110101(IB)	SWITCHBOARD - MAIN	TERASAKI ELCTRIC CO., LTD.
	650102(I)	6130303(I)	TELEPHONE - AUTOMATIC	NIPPON HAKUYO ELECTRONICS, LTD.
	650301(I)	6130301(I)	TELEPHONE - SOUND POWERED	HOSE McCANN TELEPHONE CO., LTD.
	330301(I)	6150540(I)	TELEVISION SET	SANYO ELECTRIC CO., LTD.
	720011(I)	6149469(I)	THERMOCOUPLES & RESISTANCE BULBS - ENG. RM.	MEIYO ELECTRIC CO., LTD.

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	620111(IB)	6110115(IB)	STARTERS, MOTOR	TERASAKI ELECTRIC CO., LTD.
	240708(IB)	6150509(IB)	STEERING - AUTO PILOT	TOKYO KEIKI CO., LTD.
	220001(I)	4117110(I)	STEERING GEAR	MITSUBISHI HEAVY INDUSTRIES,LTD.
	330301(I)	6150540(I)	STEREO SET	SONY CORPORATION
	340303(I)	4113201(I)	STORES - REFRIGERATION PLANT	TAKATORI MANUFACTURING CO., LTD.
	620106(IB)	6110135(IB)	SWITCHBOARD - BATTERY	TERASAKI ELECTRIC CO., LTD.
	620103(IB)	6110102(IB)	SWITCHBOARD - EMERGENCY	DO.
	620111(IB)	6110115(IB)	SWITCHBOARD - GROUP STARTER	TERASAKI ELECTRIC CO., LTD.

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	910105(I)	6119[illegible]	WELDING MACHINE -ELECTRIC	UNITOR SHIP'S SERVICE
	828201(I)	4[illegible]5110(I)	WINCHES - LIFEBOAT	HARDING SAFETY, INC.(SCHAT DAVIT LTD.)
	120302(I)	4114302(I)	WINDOW WIPER	NUNOTANI HAKUYO KEIKI KOGYO CO., LTD.

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	MANUFACTURER
	482413(I)	5233212(I)	TRAP -STEAM	GADELIUS YARWAY CORPORATION
	610204(I)	5112201(I)	TURBINE - STEAM - GENERATOR	MITSUBISHI HEAVY INDUSTRIES, LTD.
	910101(I)	5116601(I)	UNIVERSAL MACHINE TOOL	DAINICHI KINZOKU KOGYO CO., LTD.
	482411(I)	5233201(I)	VALVES -AIR-AUTO CONT.	NAKAKITA SEISAKUSHO CO., LTD.
	482412(I)	5233206(I)	VALVES -REGULATING	SANKYO SEISAKUSHO CO., LTD.
	330301(I)	6150540(I)	VIDEO CASSETTE RECORDER	HITACHI LTD.
	550507(IB)	5141131(IB)	VISCOSITY CONTROL - FUEL OIL, MN. ENG.	VAF INSTRUMENT (HOLLAND)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		PREPARED FOR S. NO 1323/4/5 AS FINISHED PLAN	

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL		[illegible]						

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME		
MITSUI TAMANO		MITSUBISHI KOBE
NO.1323	DOCTOR LYKES	NO.1158 JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159 JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164 SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER

CO-ORDINATION SECTION

LIST OF FINISHED PLANS (REPRODUCIBLES)

LYKES REF. NO. 010301

MITSUI DRAWING NO. 1100051

(6 SHEETS WITH COVER)

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	010105	1100065	List of subcontractors	
	070001	1102137	Docking plan	
	070001	1102137M	Docking plan	
	090101	1100081	General arrangement	
	090101	1100081M	General arrangement	MADE FOR POSTING
	090101	1100081M	General arrangement	MADE FOR SHOWING APL MODIFICATION AREA
	110102	2101021	Shell expansion	
	111101	2100011	Midship section	
	111704	2100021	Construction profile & deck plan	
	160203	2142021	Manhole arrangement (including ladder arrangement)	
	160206	2101311	Hatch coaming	
	190101	3101001	Painting schedule	
	190101	3101001M	Painting schedule	
	220003	2104301	Rudder and rudder stock	
	240301	1102134	Maneuvering information booklet	
	260102	4101401	Diagram of hydraulic oil pipe for deck machinery	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	270001	4104332	Arrangement of containers	
	270001	4104332M	Arrangement of containers	
	270003	4104340	Arrangement of stage for containers	
	270003	4104340M	Arrangement of stage for containers	
	270004	4104360	Container fitting	
	290102	1102061	Capacity plan with deadweight scale	
	290102	1102061M	Capacity plan with deadweight scale	
	290106	1102101	Loading manual	
	290106	1102101M	Loading manual	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	410501	5110004	Anticipated steam consumption table	
	410502	5110005	Heat balance & flow diagram for cooling water system	
	470004	4116001	Pumping arrangement	
	470004	4116001M	Pumping arrangement	MADE FOR POSTING
	470004	4116001M	Pumping arrangement	MADE FOR SHOWING APL MODIFICATION AREA
	480101	4116201	Dia. of bilge, ballast & fuel oil lines including anti - heeling system	
	480402	4116401	Dia. of fresh, hot, potable water & steam pipe for accomm. use	
	480402	4116401M	Dia. of fresh, hot, potable water & steam pipe for accomm. use	
	480701	4116501	Dia. of drain and soil pipe for accomm. space	
	480701	4116501M	Dia. of drain and soil pipe for accomm. space	
	480901	4116701	Dia. of air, sounding & filling pipes	
	481301	4116801	Dia. of heating system in fuel oil tank	
	481801	4117401	Dia. voice tube and compressed air line	
	481901	4116301	Dia. of hydraulic oil pipe for valve remote control system	
	482201	4116705	Dia. of pneumacator pipes	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	670007	6150005	One line diagram of radio system	
	820001	4118101	Lifesaving arrangement	
	920001	4120781	Spare parts & tool list - outfit, hull piping & equipment accomm. piping & quipment, accom. interior equip.	
	920301	4120780	Inventory	
	930001	4119001	Fire control & life saving plan	
	930001	4119001M	Fire control & life saving plan	S.1323,MADE FOR POSTING
	930001	4119001M	Fire control & life saving plan	S.1323,MADE FOR SHOWING APL MODIFICATION AREA
	930001	4119001M	Fire control & life saving plan	S.1324,MADE FOR POSTING
	930001	4119001M	Fire control & life saving plan	S.1324,MADE FOR SHOWING APL MODIFICATION AREA
	930001	4119001M	Fire control & life saving plan	S.1325,MADE FOR POSTING
	930001	4119001M	Fire control & life saving plan	S.1325,MADE FOR SHOWING APL MODIFICATION AREA
	930003	4119101	Dia. of Co2 fire extinguishing system	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	290112	1102102	Trim and stability booklet	
	290112	1102102M	Trim and stability booklet	
	290114	1102054	Sounding tables	
	291301	1102081	Hydrostatic table	
	330001	4111001	Accommodation plan (second deck) (1/8)	
	330002	4111002	Accommodation plan (upper deck) (2/8)	
	330003	4111003	Accommodation plan (saloon deck (01)) (3/8)	
	330004	4111004	Accommodation plan (crew deck (02)) (4/8)	
	330005	4111005	Accommodation plan (boat deck (03)) (5/8)	
	330006	4111006	Accommodation plan (passenger deck (04)) (6/8)	
	330007	4111007	Accommodation plan (senior officers deck (05)) (7/8)	
	330008	4111008	Accommodation plan (nav. bridge deck (06)) (8/8)	
	380003	4115101	Dia. & arrgt. of air cond. and vent. system for accomm. space	
	380307	4115303	Diagram of control air pipe for air conditioning in accomm. space	
	400001	5151001	Arrangement of engine room & emerg. generator room incl. flooring & vent air ducting	
	400003	5110003	Principal particulars of machinery part	

BOX NO.	LYKES REF. NO.	DWG. NO.	TITLE	REMARKS
	482203	4116105	Dia. of central cleaning system	
	482610	4116402	Diagram of remote control air piping for sea valves in fwd. mach. space	
	482710	4A16910	Duct & piping arrangement in fwd. mach. space	
	620201	6110001	One line diagram of electric power system	
	620201	6110001M	One line diagram of electric power system	
	620220	6110170	Refrig. container receptacle	
	620220	6110170M	Refrig. container receptacle	
	620226	6110041	List of electric spare parts (power system)	
	630101(I)	6119180(I)	Motors	
	630101(I)	6119180M(I)	Motors	
	640101	6120001	One line diagram of electric lighting system	
	640120	6120041	List of electric spare parts (lighting system)	
	650001	6130001	One line diagram of I.C. & nautical system	
	650002	6130041	List of electric spare parts (I.C. & nautical)	
	650003	6150042	List of electric spare parts (Radio system)	
	650402	6140001	One line diagram of instrument & alarm system	

APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL								

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER | SHIP'S NO. 1325 | SHIP'S NAME **TILLIE LYKES**

CO-ORDINATION SECTION
SEC. CHIEF / ASSIST. CHIEF / CHARGE ENG'R / STAFF

LIST OF SHIP'S PARTICULARS

DATE FEB 24 '87 (TEL 2227)
JOB NO. TS1323/24/25 | SCALE
JCBCLASSIF. NO.
LYKES REF. NO. 010305
MITSUI DRAWING NO. 1000015

(SHEETS WITH COVER)

PLAN RECORD			
ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		PREPARED FOR S. NO. 1325 AS FINISHED PLAN	JULY 22 '86

- CONTENT -

1. **General**

Ship's name	: TILLIE LYKES
Owner	: LYKES BROS. STEAMSHIP CO., INC.
Builder	: Mitsui Engineering & Shipbuilding Co., Ltd., Tamano Works
Keel laid	: April 1, 1986
Launched	: July 10, 1986
Delivered	:
Nationality	: United State America
Port of Registry	: New Orleans
Official Number	: 905624
Signal letters	: WCXN
Kind of cargo	: Container carrier
Type	: Flush decker with F'cle deck, semi aft engine and forward bridge
Stem	: Raked stem with bulb
Stern	: Transom stern
Plying limit	: Ocean
Class	: ABS A1 E, AMS, ACCU (CONTAINER SHIP)

2. Principal particulars, etc.

Length (overall)	259.0 m
Length (p.p.)	245.000 m
Breadth (moulded)	32.200 m
Depth (moulded)	18.800 m
Full load draft (keel draft)	11.920 m
Design load draft (Keel draft)	10.290 m
Deadweight at F.L. draft	44,966 mt
Full load displacement	62,137 mt

Camber :

Upper deck (straight line with knuckle)	0.150 m
Focsle deck (straight line with knuckle)	0.150 m
Other deck above upper deck	None
Other decks below upper deck	None

Sheer :

Upper deck (at center line) .... Due to camber only

Deck height : (Center to center)

2nd deck - Upper deck	3.500 m
Upper deck - Saloon deck	3.050 m
Saloon deck - Crew deck	2.700 m
Crew deck - Boat deck	2.700 m
Boat deck - Passenger deck	2.700 m
Passenger deck - SR. officers deck	2.700 m
SR. officers deck - Nav. Br. deck	2.770 m
Nav. Br. deck - House top	2.680 m

3. Tonnage

Tonnage :

	International	USA	Panama	Suez
Gross	39,132 T	36,799.54 T	40,622.36 T	40,106.54 T
Net	15,633 T	24,112 T	32,035.57 T	34,136.10 T

4. Capacity

Cargo hold : (No. of containers) :

	Bay No.	20'	40'	45'	TEU
No. 1 Hold	1	-	22	-	44
No. 2 Hold	2 & 3	-	40	-	80
	4	-	50	-	100
No. 3 Hold	5 & 6	120	-	-	120
	7	-	64	-	128
No. 4 Hold	8	-	-	58	145
	9	-	70	-	140
No. 5 Hold	10	-	-	60	150
	11	-	70	-	140
No. 6 Hold	12	-	68	-	136
	15	-	38	-	76
	16	-	28	-	56
		120	450	188	1,315

Capability of refrigerated container (included in above number of container):

	Bay No.	40'	TEU
No. 5 Hold	11	-	
	12	48	
		48	96

On deck (No. of containers) :

	Bay No.	20'	40'	45'	TEU
No. 1 Hold	1	-	11	39	119.5
No. 2 Hold	2 & 3	-	-	52	130
	4	-	13	39	123.5
No. 3 Hold	5 & 6	-	-	52	130
	7	-	13	39	123.5
No. 4 Hold	8	-	-	52	128
	9	-	13	39	123.5
No. 5 Hold	10	-	-	52	130
	11	-	13	39	123.5
	12	-	13	39	123.5
Top of Eng. Rm.	13	46	-	-	46
No. 6 Hold	14	-	44	-	88
	15	-	13	39	123.5
	16	-	13	39	123.5
Above of ST. G. Rm.	17 & 18	-	36	-	72
		46	182	520	1,710

Capability of refrigerated container (included in above number of containers) :

	Bay No.	20'	40'	45'	TEU
No. 4 Hold	9	-	16	-	32
No. 5 Hold	11	-	22	-	44
	12	-	22	-	44
			60		120

Ballast water tank :

COMPARTMENT	LOCATION (FR. NO.)	
DEEP W.B.T.	287-296	371.4
No. 1 BTM. W.B.T.	230-266	1,527.1
No. 2 F. W.B.T. (P)	214-230	552.0
No. 2 F. W.B.T. (S)	214-230	552.0
No. 2 A. W.B.T. (P)	194-214	769.9
No. 2 A. W.B.T. (S)	194-214	770.7
No. 3 BTM. W.B.T. (P)	160-194	402.6
No. 3 BTM. W.B.T. (S)	160-194	402.6
No. 4 F.W. W.B.T. (P)	142-158	469.1
No. 4 F.W. W.B.T. (S)	142-158	469.1
No. 4 BTM. W.B.T. (P)	122-158	608.4
No. 4 BTM. W.B.T. (S)	122-158	608.4
No. 4 A.W. W.B.T. (P)	122-142	590.8
No. 4 A.W. W.B.T. (S)	122-142	590.8
No. 5 BTM. W.B.T. (P)	84-122	518.7
No. 5 BTM. W.B.T. (S)	84-122	518.7
No. 5 WING W.B.T. (P)	103-122	552.8
No. 5 WING W.B.T. (S)	103-122	552.8
No. 6 WING W.B.T. (P)	31- 50	566.0
No. 6 WING W.B.T. (S)	31- 50	566.0
AFT PEAK T. (P)	A.E.-16	442.3
AFT PEAK T. (S)	A.E.-16	450.7
ANTI-HEELING T. (P)	84-103	600.9
ANTI-HEELING T. (S)	84-103	600.9
TOTAL		14,054.7

Fuel oil tank :

COMPARTMENT	LOCATION (FR. NO.)	
No. 3 F.W. F.O.T. (P)	178-194	466.7
No. 3 F.W. F.O.T. (S)	178-194	466.7
No. 3 A.W. F.O.T. (P)	158-178	567.8
No. 3 A.W. F.O.T. (S)	158-178	567.8
DEEP F.O.T. (P)	70- 83	*468.9
DEEP F.O.T. (S)	70- 83	*476.5
H.F.O. SETT. T. (P)	78- 83	*118.2
H.F.O. SETT. T. (S)	78- 83	*117.4
H.F.O. SERV. T.	78- 83	*121.7
TOTAL		3,371.7
F.O. DRAIN T.	79- 83	56.5
H.F.O. SLUDGE T.	78- 80	*1.7

Diesel oil tank :

COMPARTMENT	LOCATION (FR. NO.)	
DIESEL OIL T. (P)	66- 79	86.7
DIESEL OIL T. (S)	54- 79	101.0
D.O. SETT. T.	70- 74	*23.1
D.O. SERV. T.	70- 74	*22.8
TOTAL		233.6
D.O. SLUDGE T.	78- 80	*1.5

L.O. tank :

COMPARTMENT	LOCATION (FR. NO.)	
M/E L.O. STOR. T.	62- 66	60.8
BTM. RESERVE L.O.T.	51- 77	56.6
BTM. L.O. SUMP. T.	55- 76	47.9
TOTAL		165.3
L.O. SLUDGE T.	80- 82	*3.2
S/T L.O. DRAIN T.	29- 34	5.9
CYL. O. STOR. T.	54- 62	59.9

Fresh water tank :

COMPARTMENT	LOCATION (FR. NO.)	
No. 1 POT. W.T. (P)	268-279	116.5
No. 1 POT. W.T. (S)	268-279	116.5
No. 2 POT. W.T.	58- 69	111.4
DIST. W.T.	54- 58	30.6
TOTAL		375.0
COOL. W.T.	A.E.-21	90.1

Note : The capacities with * mark shows the valve to overflow pipe.

Miscellaneous tank :

COMPARTMENT	LOCATION (FR. NO.)	
SOOT CLEAN WATER T.	54- 62	40.9
CLEAN DRAIN T.	54- 62	17.8
WASTE OIL T.	70- 78	17.8
BILGE T.	44- 50	62.4

5. Main and auxiliary machinery

Main engine:

Mitsui-B&W DE 9L80MCE — 1 set
M.C.R. 28,800 PS x 83.0 rpm
N.S.R. 25,500 PS x 79.7 rpm

Exhaust gas boiler : — 1 set

Bent bare and finned tube, with pre and super heater
Evaporation ...... 4,415 kg/hr at main engine output of 25,500 PS
Steam condition .. 6.5 kg/cm², saturated

Oil fired boiler : — 1 set

Marine vertical boiler MC90A
Evaporation ...... 8,500 kg/hr
Steam condition ... 11 kg/cm², saturated

Diesel generator : — 3 sets

Daihatsu 6DL-24
1,170 PS x 720 rpm
AC 480V, 800 kw

Fresh water generator : — 1 set
Nagase-Alfa JWSP-36-C100
35T/day

Turbo generator :

Horizontal, mixed press., condens., with extraction — 1 set
Mitsubishi AT-34F
800 kw x 1,800 rpm
AC 480V

Shaft generator :

Main engine forward end mounted, direct driven — 1 set
siemens
Rated 2,000 kw x AC 480V

Emergency generator :

Two cycle, radiator cooled G.M. Detroit Diesel 8V-71T — 1 set
335 ps x 1,800 rpm
AC 480V, 210 kw

6. Speed and Endurance

Maximum trial speed .... 23.17 Knots
(= 31,230 mt at M.C.O.)

Service speed .... 21.17 Knots
(at design load draft
& N.S.R. with 15% sea margin)

Fuel consumption .... 78.1 MT/day

Endurance .... 21,280 sea miles

7. Rudder and Propeller

Rudder :

Type & number : Semi-spade rudder with horn — 1 set
Rudder area (with horn) (A) .... 65.96 m²
(without horn : 54.16 m² (A'))
Rudder area (fwd. of turning axis) (Af) .... 13.59 m²
Rudder area ratio (A/LPP x dm) 1/44.13
dm = 11.88 m
Balancing ratio (Af/A') 0.251
Stock dia. .... 660 mm

Propeller :

Type & number : 5-bladed, solid — 1 set
Material .... Ni-Al-bronze (NIKALIUM)
Diameter .... 8,100 mm
Pitch at 0.7R. 8,388 mm

8. Complement

Deck		Engine			
MASTER	1	CH. ENG.	1	RADIO OFF'R	1
CH. MATE	1	1ST ASST. ENG'R	1		
2ND MATE	1	2ND ASST. ENG'R	1		
3RD MATE	1	3RD ASST. ENG'R	1		
NIGHT RELIEF MATE	1	NIGHT RELIEF ENG'R	1		
		OFFICER TOTAL	11		
BOATSWAIN	1	ELECTRICIAN	1	STEWARD	1
		PETTY OFFICER TOTAL	3		
ORDINARY S.	2	ABLE S.	3	STEWARD UTIL	1
WIPER	2	H. COOK	1		
		CREW TOTAL	9		
		CADET	2		
		PILOT	1		
		SPARE	4	(Owner 3, Crew 1)	
		PASSENGER	12		
		GRAND TOTAL 42 persons			

9. D: Hull outfitting equipment

D-1. Deck machinery

a)-1 Windlass with auto-tension mooring winch
Type : Electro hydraulic motor driven single-wildcat type
Number of sets : 2 sets
Capacity :
Cable lifter : 25.0 t x 9 m/min. x 1
Wire drum : 20.0 t x 15 m/min. x 1
(800 L x 560 ϕ without midd. flange)
Warping head : 15.0 t x 15 m/min. x 1 (600 L x 550 ϕ)
Auto-tension : 20.0 t x 0-2 m/min.

Brake capacity : 14.4 t on gypsy wheel
40 t on wire drum

a)-2 Mooring winch with auto-tension

Type: Electro hydraulic motor driven
Number of sets : 4 sets
Capacity :
Wire drum : 20.0 t x 15 m/min. x 1
(800 L x 560 ϕ without midd. flange)
Warping head : 15.0 t x 15 m/min. x 1 (600 L x 550 ϕ)
Auto-tension : 20.0 t x 0-2 m/min.
Brake capacity : 40 t on drum at 1st layer

a)-3 Hydraulic power unit for deck machinery

1) Hydraulic pump (for fore part)
Type : FG18
Number of sets : 2 sets
Revolution : 280 rpm
Oil pressure : 40 kg/cm²
(safety valve sett. press. : 45 kg/cm²)
El. Motor : 95 kw x 1,765 rpm

Type : FG3
Number of sets : 1 set
Revolution : 450 rpm
Oil pressure : 40 kg/cm²
(safety valve sett. press. : 45 kg/cm²)
El. motor : 20 kw x 1,750 rpm

2) Hydraulic pump (for aft. part)
Type : FG18
Number of sets : 2 sets
Revolution : 280 rpm
Oil pressure : 40 kg/cm²
(safety valve sett. press. : 45 kg/cm²)
El. motor : 95 kw x 1,765 rpm

Type : FG3
Number of sets : 1 set
Revolution : 450 rpm
Oil pressure : 40 kg/cm²
(safety valve sett. press. : 45kg/cm²)
El. motor : 20 kw x 1,750 rpm

Maker : Fukushima Ltd.

a)-4 Remote control system for deck machinery : Not provided

b)-1 Deck crane (for Boatswain's store)
Type : Electric motor driven,
VE/1.6/9500
Number of sets : 1 set
Hoisting
Capacity : Hook operation
1.6 tons at 9.5 m/max. radius (min. 6.0 m)

Hoisting
Speed : 10 m/min.

Lifting
Height : 25.0 m

Slewing
Speed : 0.5 rpm
Angle : 270 degrees

Luffing
Speed : Approx. 40 seconds (max.-min. radius)

Motor : For hoisting gear
5.5 kw x 1, AC 440V, 60 HZ
For slewing gear :
3.7 kw x 1, AC 440V, 60HZ
For luffing gear :
3.7 kw x 1, AC 440V, 60HZ

Maker : SCHAT DAVIT LTD.

b)-2 Deck crane (for engine room)
Type : Electric motor driven,
VE/7/10000
Number of sets : 1 set
Hoisting
Capacity : Hook operation
7.0 tons at 10.0 m/max. radius (min. 3.0 m)

Hoisting
Speed : 10 m/min.

Lifting
Height : 33.0 m

Slewing
Speed : 0.5 rpm
Range : 210 degrees

Luffing
Speed : Approx. 40 seconds (max.-min. radius)

Motor : For hoisting gear
(BBC) 22 kw x 1, AC 440V, 60HZ
For luffing gear :
22 kw x 1, AC 440V, 60HZ
For slewing gear :
7.5 kw x 1

Maker : SCHAT DAVIT LTD.

D-2. Anchoring and Mooring Fitting

a) Equipment number : 3452
Equipment letter : U42

b) Anchor :
Type : Stockless high holding power type (AC-14) (cast steel)
Number : 3 (including 1-spare)
Weight : 7,875 kg
Maker : Kiyomoto Iron & Machinery Works Co., Ltd.

c) Chain Cable :
Type : Stud link chain cable, flush butt welded grade 3
Diam. : 78 mm
Length : 330 m x 2 (for P&S)

d) Mooring rope :
Type : KARAT MAXI
Diam. : 56 mm 60 mm
Length : 135 m x 6 200 m x 6

e) Mooring fitting :
Focsle deck : 4-360 x 260 panama chock
2-310 x 260 panama chock
5-universal chock (multi-roller type)
6-355 ϕ bollard
6-350 ϕ deck roller
1-one point mooring chock (P. side)

Upp. deck (aft part) : 4-360 x 260 panama chock
2-310 x 260 panama chock
2-500 x 250 closed chock
5-universal chock (multi-roller type)
8-355 ϕ bollard
4-300 ϕ deck roller

D-3. Hatch Cover

a) Hatch cover
Type : Sigle skinned pontoon type

Principal Particulars

Hatch No.	Hatch Size (L x B) *1 M	Cover Size (L x B) M	Quantity of Hatch	Quantity of Panel	Area of Cover
1. Fore	12.64 x 10.5	12.8 x 10.66	2	2	136.4 x 2
Aft	14.13 x 13.05	14.32 x 13.21	2	2	189.2 x 2
2. Fore	12.64 x 13.05	12.8 x 13.21	2	2	169.1 x 2
Aft	14.13 x 13.05	14.32 x 13.21	2	2	189.2 x 2
3. Fore	12.64 x 13.05	12.8 x 13.21	2	2	169.1 x 2
Aft	14.13 x 13.05	14.32 x 13.21	2	2	189.2 x 2
4. Fore	12.64 x 13.0.	12.8 x 13.21	2	2	169.1 x 2
Aft	14.13 x 13.05	14.32 x 13.21	2	2	189.2 x 2
5. Fore	12.69 x 13.05	12.8 x 13.21	2	2	169.1 x 2
Aft	12.96 x 13.05	12.8 x 13.21	2	2	169.1 x 2
6. Fore	12.75 x 13.05	12.8 x 13.21	2	2	169.1 x 2
Aft	12.75 x 13.05	12.8 x 13.21	2	2	169.1 x 2

Note : *1 - Inside dimension of hatch coaming

Material :
Hatch cover : Steel welded construction
Gasket : Sponged gasket (tightning bar : 38 x 16 F.B. (Top: R8)(mild steel))

Strength and design condition :
Position I : 1.75 ton/m^2 (No. 1 F&A)
Position II : 1.30 ton/m^2 (Other than above)

Container load : 60 LT/4 tiers of 20' container
90 LT/4 tiers of 40' container
94 LT/1 tier of 40' and 3 tiers of 45' container
96 LT/4 tiers of 45' container

Hatch coaming
Height : 1,200 mm at ship's center

b) Operation
Open/close : by shore crane
Securing : Manual quick acting cleat (4-pieces per panel)

D-6. Cargo Hold Ventilation and etc.

a) Natural ventilation

Hold No.	Type	No.	Diam (m/m)	Location
1	Wall type	2	580 x 430(h)	Hatch cover
2	"	4	"	"
3	"	4	"	"
4	"	4	"	"
5	Float type	24	450ϕ	Hatch side coaming
5	Wall type	2	1680 x 480	Fan house
6	Wall type	2	580 x 430(h)	Hatch cover
Duct keel	Mush room type	2	330	Upp. Dk.

b) Mechanical Ventilation

Hold No.	Type	No.	Air Volume (m^3/min)	Static press. (mmAq)	Motor (kw x rpm)	Location
5	Axial flow Fan	20	630	85	18.5 x 1800	Fan House

Each fan shall have main duct led vertically which have branch duct for each container tier.

Other holds shall not have mechanical ventilation.

Duct keel	Axial flow type	2	56	30	0.75 x 3600	Upp.dk.

Hold No.	Type	No.	Air volume (m^3/min.)	Static press. (mmAq)	Motor (KWxrpm)	Location
2	*1 Axial flow fan	2	275	44	*2 3.7x1800	Passage DK.
3	*1 Axial flow fan	2	275	44	*2 3.7x1800	Passage DK.
4	*1 Axial flow fan	2	275	44	*2 3.7x1800	Passage DK.

Note: 1. *1; Air duct shall be extended to bottom level of hold.

2. *2; Type of motor: Class I, Group D, Division 1, Explosion proof type

3. 4-openings on side of hatch cover shall be used as fresh air intake.

4. Fans and motors were supplied by Owner.

D-9. Joiner Bulkhead and Lining

Method 1C in IMCO resolution A. 327 (IX) concernign fire safety requirements for cargo ship shall be applied in accommodation area.

a) Joiner BHD, lining and ceiling :

Corridor BHD : 50 m/m "B" class modular panel (TNF panel)
Divisional wall : 50 m/m non-combustible modular panel (TNF panel)
Lining : 45 m/m non-combustible modular panel (TNF panel)
Ceiling : 45 m/m non-combustible modular panel (TNF panel)

b) Finishing :

Corridor BHD : P.V.C. laminated sheet
Divisional wall : "
Lining : "
Ceiling : "

c) Insulation :

In principle, insulation shall not be provided for cabin area except following spaces adopted 50 mm rock wool.

- Ceiling and exposed walls on "NAV. BR. DK."
- Exposed wall for lavatory
- Exposed wall for spare bulb LKR and baggage LKR
- Exposed wall for laundry
- Exposed wall for galley

D-10. Deck Covering

a) 6 m/m LATEX COMP. + 7 m/m CARPET
All private rooms, gymnasium

b) 6 m/m LATEX COMP. + VINYL TILE
All passagewey and stairway
Aft half of W/house, Elect. rm., Radio rm., Computer rm.
Off. & pass. dining rm., Crew mess rm.
Duty mess rm.
Steward office, Deck office, Ballast cont. rm. & cargo office
Hospital, Slop chest, Hobby rm. closet

c) 8 m/m LATEX COMP. + DRESSING EMULSION
Dk. changing rm., Oil skin LKR

d) 2 m/m LATEX COMP. + 6 m/m TARAFLEX SPORT
Fore half of W/house

e) 5 m/m PERLITE CEMENT + 50 m/m HI-HEAT BOARD + 1.2 m/m METAL RATH + 10 m/m PERLITE CEMENT + 6 m/m LATEX COMP. + 2 m/m VINYL TILE
Eng. office, Archieves rm. (Floor area faced to potable tank)
Suez canal crew conf. rm.

f) 66 m/m PERLITE CEMENT + 6 m/m LATEX COMP. + 2 m/m VINYL TILE
Archieves rm. (Floor area faced to another area than above)
Eng. office

g) 66 m/m PERLITE CEMENT + 6 m/m LATEX COMP. + DRESSING EMULSION
Dry prov. store

h) 25 m/m CEMENT + 4 m/m t x 25 m/m x 25 m/m NONSKID MOSAIC TILE
All lavatories and W.C., Service LKR, Laundry

i) 30 m/m CEMENT + 10 m/m t x 100 m/m x 100 m/m NONSKID GROOVED TILE
Galley, Space between galley and dining rm./mess rm.
Laundries & Dry. rooms
Off. and crew chang. rooms

j) 15 m/m LINK RUBBER MAT
3,080 m/m width from fore wall of weather part on Nav. Br. Dk.
Around of swimming pool

D-11. Accommodation

a) Public room :

Officer class : Officer's & passenger's dining room
Officer's recreation room
Passenger's lounge

Crew class : Crew's mess room. duty mess room
Crew's recreation room

b) Private room :

	Occupant	Day rm.	Bed rm.	Office	Name
Cap. class	1	1	1	1	Master C/Eng.
Senior officer	1	1	1	-	C/Mate 1/Asst. eng. R/Off.
Junior officer	1	1	1	-	2/Mate 3/Mate 2/Asst.eng. 3/Asst.eng.
	1	1	-	-	Pilot Cadet (2) Night relife (2)
Petty officer	1	1		-	Steward Boatswain Electrician
Crew class	1	1		-	3-A.B. Seaman 2-Oridinary S.M. 2-wiper Ch. cook Steward util.

c) Office :

Officer class : Hospital, DK. office, Engine office

d) Navigation room :

Officer class : Wheelhouse, Radio room, Computor room
Crew class : Electric room

e) Sanitary space :

	Lav.	W.C.	Changing rm.
For captain class	1-priv. rm.	-	
For Senior off. class	1-priv. rm.	-	
For Junior off. class	1-priv. rm.	-	
For P/off. class	1-priv. rm.	-	
For crew class	1-priv. rm.	-	
Wheel house	-	1	-
Hospital	1 (with bath tub)	-	-
Suez canal crew conf. rm.	1	-	-
Upper deck	-	1	1 (Deck changing)
Saloon deck	-	1	-
Engine conference room	-	1	
Engine roon (2nd deck)	-	1	
Engine room (Partial deck)	-	-	1

f) Commissary space :
1-galley

1) Equipment in galley

Electric range — 1 set
Type : MR-40, 20.4 kw, AC480V
Maker : Hobart

Food mixer — 1 set
Type : A200-D, 0.25 kw, AC115V
Maker : Hobart

Meat slicer — 1 set
Type : 512, 0.25 kw, AC115V
Maker : Hobart

Microwave oven — 1 set
Type : 1312-T, 1.3 kw AC240V
Maker : Hobart

Deep fryer — 1 set
Type : MK-20, 12 kw, AC480V
Maker : Hobart

Electric gridule — 1 set
Type : MR-42, 22.2 kw, AC480V
Maker : Hobart

Lowerator Type : WYOTT Maker : AMF	1 set
Hand dryer Type : 115-VAC, No. 76-C, AC115V Maker : Excel	1 set
Dish washer with booster heater Type : AM-14, e12, 5kw + 12 kw, A460V Maker : Hobart, Hatco	1 set
Toaster Type : ET26, 4-slice, 2.6 kw, AC115V Maker : Hobart	3 sets
Dish washer pre-rinse spray Type : PR-3 Maker : Hobart	1 set
Steam table Type : E-7-SR-SS, 7 kw, AC480V Maker : Duke	1 set
Electric refrigerator Type : R-20BSSC, 600 L, AC115V Maker : Bailey	1 set
Coffee maker Type : VAC-152, 1.7 kw, AC115V Maker : Vaculator	3 sets
Disposer Type : FD2-125, 0.93 kw, AC460V Maker : Hobart	1 set
Ice cube maker Type : AC25 MAS-1A, 70 kg/day, AC115V Maker : Scotsman	3 sets
Milk dispenser Type : IMPERIAL NSF SK-2, AC115V Maker : Silver Lsing	1 set (Owner supply)
Chill cabinet Type : 9036, 3.7CF 1/4, HP, AC115V Maker : Delfield	1 set (Owner supply)
Salad bar Type : RP-10-8E, 12CF, AC115V Maker : Star Metal Corp.	1 set (Owner supply)

Cold water fountain Type : CWB-4, AC115V Location : Eng. work shop Maker : Cordley	1 set
Cold water fountain Type : WHA-14, AC115V Location : 2nd deck, upper deck, saloon deck, crew deck boat deck, pass. deck, SR. off. deck Maker : Cordley	7 sets

g) Laundry and drying room

1) Equipment in ship's laundry

Electric washing machine Type : UW-30-B2, AC240V Maker : Uniwash	1 set
Electric drying tumbler Type : 37CE, Ac480V Maker : Huebsch	1 set
Ironing machine Type : 0.6 kw Maker : Cissel	4 sets

2) Equipment in laundries on SR. off. deck/pass. deck/crew deck

Electric washing machine x 1
Electric drying machine x 1 — for each laundry OFE

h) Accommodation door

1) A-60 door

Location	No.	Clear opening (mm)
BTWN radio room and radio off. bed room	1	650
Engine conference room	1	700
Fire equipment room	1	700
Escape hatch	1	610 x 610

2) Weathertight alumi. hollow door

Location	No.	Clear opening (mm)
Weather part - passageway	8	700
Weather part - W/house	2	900 (sliding)

3) Fire-proof door class A-0 hollow door (Steel hollow gas tight door)

Location	NO.	Clear opening (mm)
Stair case	8	750
Elect. room	1	650
Radio room	1	650
Service locker	7	650
Baggage locker	5	650
Elevator	7	700
Galley	3	750
Clean/dirty linen lockers	2	650
FWD switchboard room	1	650
Fire station	1	650
P & E.C.T.	7	600
Air cond. unit room	1	700
FWD. mach. space	1	700
Elev. mach. room	1	700
Prov. ref. mach. room		
Lockers	2	650
Bonded store	1	700
Dry prov. store	1	700
Hand. space-passage	1	800
Garbage room	1	650
Ballast. cont. room & cargo office	1	650
Slop chest	1	650
Deck chair	1	650
Spare bulbs locker	1	650
W.C. (Nav. br. dk.)	1	650
Shaft tunnel	1	600
Engine control room	2	700
Eng. rm. (FR11,78,80,83)	3	700
Eng. rm. (FR61)	1	600
Emergency generator room	1	700

4) Fire proof door class B-0 (Steel hollow door)

Location	NO.	Clear opening (mm)
Public room	9	750
Private rooms	37	650
Deck office	1	650
Engine office	1	650
C/eng.,master's office	2	650
Closet	2	500
Computer room	1	650
Laundry	3	700
Archives room	1	650
Hobby room	1	650
Gymnasium and swimming pool	2	700
W.C.	2	650
Deck changing room	1	650

5) Steel hollow door

Location	NO.	Clear opening (mm)
El. room	1	650
No.1 stationary locker	1	650
Inside of each private room and office	24	650
Lavatory	38	600
BTWN Suez canal crew Conf. room and Eng. office	1	650
BTWN duty mess room and off. & pass. dining room	1	750
Bath room in hospital	1	750
Game locker	1	650

i) Elevator :

No. 1 Elevator : (for acc. space)
Type : Single wrap traction geared type
Capacity : 500 kg x 60 m/min. (6 P.)
Stop Position : 7 stops
Motor : 7.5 kw x 1,150 rpm, AC460V

No. 2 Elevator : (for engine room)
Type : Single wrap traction geared type
Capacity : 500 kg x 30 m/min. (6 P.)
Stop position : 3 stops
Motor : 3.7 kw x 1,150 rpm, AC460V
Maker : Nippon Elevator Ind., Co.

j) Dumb waiter :
Type : Single automatic button control
Capacity : 80 kg x 25 m/min.
Motor : 0.4 kw x 1,670 rpm, AC460V
Maker : Nippon Elevator Ind., Co.

D-13. Cold Provision Store

a) Volume and temperature

Room	Volume(m^3)	Temp. (°C)	Cooling method
Frozen	32	- 18	Unit cooler
Chilled	38	+ 2	"

b) Insulation

Item	G/W	P/F	P/W	A/S	D/COMP.	LP	TOTAL
Ceiling	250		9	1			260
Side wall							
Exposed part	250		5.5+12	1			269
Non exposed part	250		12	1			263
Div. wall	110		2x12	1+1			176
Floor		125	18		58	1.5	203

Abbreviation:
- G/W : Glass wool (20 kg/m^3)
- P/F : Polyurethane foam (30 kg/m^3)
- P/W : Plywood (Water-proof plywood)
- A/S : Alumi. alloy sheet
- D/COMP. : Cement & tile
- LP : Lead plate

c) Refrigerating plant

Type : U.S. Carrier, high-speed multi-cylinder reciprocating model 5F20
No. : 2 sets
Motor : 5.5 kw x 1,740 rpm

Cooling Capacity : 4,300 kcal/hr x 2
Refrigerant: Freon 502 (R-502)
Cooling Water : 4.77 m^3/hr (one condensing unit)

D-14. Natural Lighting

a) Natural light

Location	No. and type Fixed	Hinge	Size	Material
Public room				
Off. & pass. dining room	5	1	450x600	Brass
Crew mess room	5	1	"	"
Off. rec. room	4	-	"	"
Crew rec. room	4	-	"	"
Passenger lounge	6	-	"	
Private room				
Master & C/Eng day room	2	-	450x600	Brass
" bed room	2	-	"	"
" office	3	-	"	"
C/Mate & 1/Asst. Eng. day room	3	-	"	"
" bed room	1	-	"	"
2/Mate & 2/Asst. Eng. day room	1	-	"	"
" bed room	2	-	"	"
3/Mate, 3/Asst. Eng. R/off., Electrican Steward & Bosun day and bed room	2	-	"	"
Other private rooms	1	-	"	"
Office, etc.				
Radio room	2	-	450x600	Brass
Gymnasium	2	-	1,000x700	"
Navigation room				
Wheelhouse				
Front wall (center with wiper)	1	-	2,200x700	Brass
Front wall	4	-	800x700	"
" (with clear V. S.)	2	-	875/810x700	"
"	2	-	750/690x700	"
"	2	-	760/680x700	"
"	2	-	550x700	"
Side wall	2	-	800x700	"
"	2	-	600x700	"
"	2	-	665x700	"
"	2	-	850/755x700	"
"	2	-	710/615x700	"
"	2	-	715/610x700	"

b) Clear view screen

Type : PHSI-35, AC115V
No. : 2 sets
Maker : Nunotani hakuyo keiki kogyo Co., Ltd.

c) Wiper

Type : EWP-36H (L=600 m/m, B=450 m/m), AC115V
No. : 3 sets
Maker : Nunotani hakuyo keiki kogyo Co., Ltd.

D-15. Ventilation for Accommodation Space

a) Air conditioning system

1) Design condition
1)-1 Condition for air :

Item	Hot climate Temp.	R.H.	Cold climate Temp.	R.H.	Intemediate climate Temp.	R.H.
Ambient	35°C	-	-18°C	-	-	-
Room	22°C	50%	22°C	50%	-	-
Rate of fresh air to supply	30%		30%		100%	
Sea water temp.	29°C		-		-	

1)-2 Air charge :

Public room : 9 times/hr
Private room : 6 times/hr
Spot cooling space : 4 times/hr

2) Refrigerating system

Type : High-speed multi-cylinder reciprocating 5H80
No. : 1 set
Motor : 75 kw x 1,770 rpm (squirrel cage drip proof)
Cooling capacity: 268,000 Kcal/hr (Tc + 40°C/Te + 5°C)
Refrigerant : Freon 22 (R-22)
Cooling water : 81.8 m^3/hr
Maker : Carrier

3) Fan unit

Type : Centrifugal limit load type DSCU-30
No. : 2 sets
Capacity : 29,500 m^3/hr x 276 mmAq
Motor : 37 kw x 1,750 rpm
Maker : Takatori manufacturing Co., Ltd.

b) Mechanical Ventilation

For accommodation space

No. 1 exhaust fan for Sanitary space (S. side) 1 set
Axial flow fan
Capacity : 31 m^3/min x 30 mmAq
Motor : 0.4 kw x 1,800 rpm

No. 2 exhaust fan for Sanitary space (P. side) 1 set
Axial flow fan
Capacity : 57 m^3/min x 30 mmAq
Motor : 0.75 kw x 1,800 rpm

No. 3 exhaust fan for Galley 1 set
Axial flow fan
Capacity : 66 m^3/min x 27 mmAq
Motor : 0.75 kw x 1,800 rpm

No. 4 exhaust fan for Miscellaneous space 1 set
Axial flow fan
Capacity : 31 m^3/min x 30 mmAq
Motor : 0.4 kw x 1,800 rpm

No. 5 exhaust fan for CO_2 room 1 set
Axial flow fan
Capacity : 100 m^3/min x 40 mmAq
Motor : 1.5 kw x 1,800 rpm

No. 6 exhaust fan for Elev. mach. rm., Elev. trunk, Fire cont. station, Fwd. switch-board rm. and Garbage rm. 1 set
Capacity : 45 m^3/min x 37 mmAq
Motor : 0.75 kw x 1800 rpm

No. 1 supply fan for Galley 1 set
Axial flow fan
Capacity : 30 m^3 x 27 mmAq
Motor : 0.5 kw x 1,800 rpm
Maker : Nishishiba Electric Co., Ltd.

D-16. Piping

a) Bilge, ballast and fuel oil system

1) Bilge system
1)-1 Bilge pump :
Type : Electric vertical reciprocating type
No. : 1 set
Capacity: 5 m^3/hr x d. 3 atg
Motor : 1.5 kw x 1,200 rpm

1)-2 Line system
Indipendent line system

27

b) Mechanical Ventilation

For accommodation space

No. 1 exhaust fan for Sanitary space (S. side) — 1 set
Axial flow fan
Capacity : 31 m^3/min x 30 mmAq
Motor : 0.4 kw x 1,800 rpm

No. 2 exhaust fan for Sanitary space (P. side) — 1 set
Axial flow fan
Capacity : 57 m^3/min x 30 mmAq
Motor : 0.75 kw x 1,800 rpm

No. 3 exhaust fan for Galley — 1 set
Axial flow fan
Capacity : 66 m^3/min x 27 mmAq
Motor : 0.75 kw x 1,800 rpm

No. 4 exhaust fan for Miscellaneous space — 1 set
Axial flow fan
Capacity : 31 m^3/min x 30 mmAq
Motor : 0.4 kw x 1,800 rpm

No. 5 exhaust fan for CO_2 room — 1 set
Axial flow fan
Capacity : 100 m^3/min x 40 mmAq
Motor : 1.5 kw x 1,800 rpm

No. 6 exhaust fan for Elev. mach. rm., Elev. trunk, Fire cont. station, Fwd.switch-board rm. and Garbage rm. — 1 set
Capacity : 45 m^3/min x 37 mmAq
Motor : 0.75 kw x 1800 rpm

No. 1 supply fan for Galley — 1 set
Axial flow fan
Capacity : 30 m^3 x 27 mmAq
Motor : 0.5 kw x 1,800 rpm

Maker : Nishishiba Electric Co., Ltd.

D-16. Piping

a) Bilge, ballast and fuel oil system

1) Bilge system

1)-1 Bilge pump :
Type : Electric vertical reciprocating type
No. : 1 set
Capacity: 5 m^3/hr x d. 3 atg
Motor : 1.5 kw x 1,200 rpm

1)-2 Bilge pump : (Owner supply)
Type : Air operated diaphragm pump
No. : 1 set
Capacity: 10 m^3/hr x t.45 m

1)-3 Line system
Independent line system

6) Tank level and draft indicating system

Type : Air purge type
No. :

TANK	NO.	INDICATION
Deep W. B. TK.	1	Analogue
No.1 BTM. W.B. TK.	1	"
No.2 F.W.B. TKS. (P/S)	2	"
No.2 A.W.B. TKS. (P/S)	2	"
No.3 BTM.W.B. TKS. (P/S)	2	"
No.4 F. wing W.B. Tks.	2	"
No.4 A. wing W.B. Tks.(P/S)	2	"
No.4 BTM. W.B. TKS. (P/S)	2	"
No.5 wing W.B. Tks. (P/S)	2	"
No.5 BTM. W.B. TKS (P/S)	2	"
Heel. TK. (P/S)	2	"
No.6 wing W.B. TK. (P/S)	2	"
A.P. TKS (P/S)	2	"
for F.O. Tks.		
Draft gauge (Fore x 1, Mid. x 2, Aft x 1)	4	"
Total	28	

Above level indicators are installed in "Ballast control room & cargo office". Draft gauges are also indicated in "Wheelhouse".

No.3 F. wing F.O. Tks (P/S)	2	Analogue
No.3 A. wing F.O. Tks (P/S)	2	"
Deep F.O. Tks (P/S)	2	"
D.O. Tks (P/S)	2	"
Total	8	

Above level indicators are installed in "Engine control room".

Maker : Danfoss

7) Central cleaning system

Pump:
Type : Plunger pump, P40/51-130
No. : 1 set
Capacity : 40 l/min. x 70 kg/cm^2
Location & No. of outlet : Eng. rm. x 21, St. G. rm. x 2
Cargo holds x 24, FWD. Mach. Sp. x 1
Air cond. unit rm. x 1, Acc. space x 16
Upper deck (Exposed) x 14, Under deck pass. x 10
Boatswain store x 1, Focsle deck x 1

Total 90 outlets

No. of spare gun: For Eng. rm. x 4, For others x 4

Total 8 sets

8) Others

Ring main overflow piping system (200φ) for fuel oil tanks was installed in under deck passageway.

c) Water supply system in accommodation

1) Fresh water system
Tk. capacity : 2 m^3
F.W. pump : Electric vertical, centrifugal type
Capacity : 13 m^3/hr x t 55 m
Motor : 5.5 kw x 3600 rpm x 2
Maker : Shinko Kinzoku Ind. Co., Ltd.

F.W. sterilizer : Capacity : 11.4 m^3/hr x 2
Maker : Bull & Roberts

2) Hot water sy-tem

Distributing system :
Hot water circulating pump x 1
Type : Elect. vertical, centrifugal type
Capacity : 4 m^3 x t 5 m
Motor : 0.4 kw x 1,800 rpm
Maker : Shinko Kinzoku Ind. Co., Ltd.

Calorifier for acc. service:
Type : Steam heating type
No. : 1 set
Capacity : 300 L
Heating Capacity : 30 L/min. from 10°C to 60°C

Calorifier for engine room service:
Type : Steam heating type
No. : 1 set
Capacity : 100 L
Heating Capacity : 15 L/min. from 10°C to 60°C

Maker : Musasino Eng. Works's Co., Ltd.

d) Drainage system in accommodation
Sewage treatment plant :
Type : Model 12M812-27
No. : 1 set
Capacity : Approx. 120 persons
Maker : Omnipure Inc.

e) Fuel oil heating system
Heating area ratio : 0.04 m^2/m^3
Heating material : Steel Pipe

D-17. Steering Gear and nautical instrument

a) Steering gear
Type : Electro-hydraulic ram type, DF-250
No. : 1 set
Torque : Max. 233.0 t-m at max.
Working pessure of 205 kg/cm^2
(Safety valve press : 257 kg/cm^2)
Steering time : 28 sec. from 35° to 30° other side (by one pump)

Hydraulic pump
Type : Axial pistone type, (Mitsubishi Janney pump) 3V-SH2B-05-LDR-62
No. : 2 sets (100% x 2)

Motor
No. : 2 sets
Capacity : 75 kw x 1200 rpm, AC460V
Rating : 25% cont.
100% 60 min.
200% 30 sec.

Emergency steering : By mechanical lever in steering gear room

Storage Tank
No. : 1 set
Capacity : 1000 L
Maker : Mitsubishi Heavy Industries, Ltd.

b) Lubricating of Rudder Carrier

Thrust bearing : Gravity tank system

c) Bow thruster
Type : MITSUBISHI-KAMEWA 2000/MSB (controllable pitch type)
Number : 1 set
Thrust : 14.4 ton
Propeller diam. : 2.0 m
Propeller revolution : 247 rpm (at 1190 rpm of prime mover)
Direction of rotation: Clockwise seen from starboard side
Control device : Electric remote control (follow-up type)

El. motor :
Type : Vertical, squirrel cage drip-proof type
Power : 920 kw x 1,200 rpm, AC4000V x 60 Hz
Rating : 30 minutes (short-time rating)
Maker : Mitsubishi Heavy Industries, Ltd.

d) Nautical instrument

1) Magnetic compass — 1 set
   Type : K165A
   Maker : Nunotani Hakuyo Keiki Kogyo Co., Ltd.

2) Gyro compass — 1 set
   Type : TG5000
   Maker : Tokyo Keiki Co., Ltd.

3) Steering control — 1 set
   Type : PR7507-DM
   Maker : Tokyo Keiki Co., Ltd.

4) Doppler log — 1 set
   Type : MF-22P-2
   Maker : Furuno Electric

5) Radio direction finder — 1 set
   Type : 4005A
   Maker : ITT mackay

6) Radar — 2 sets
   Type : ARP 1645/9X AND ARP 1660/12S
   Maker : Selesmar

7) Echo sounder — 1 set
   Type : F-851T-1
   Maker : Furuno elect. Co., Ltd.

8) Navigation receiver — 1 set
   Type : MNS2000
   Maker : Recal DECCA

e) Radio Installation
   Radio telegraph & telephone

1) Main transmitter — 1 set / 1 set
   Type : 2012C
   Maker : ITT mackay

2) Reserve transmitter — 1 set
   Type : 2017A
   Maker : ITT mackay

3) Main receiver — 1 set
   Type : 3030A
   Maker : ITT mackay

4) Reserve receiver — 1 set
   Type : 3030AR
   Maker : ITT mackay

5) VHF radio telephone — 1 set
   Type : 222
   Maker : ITT mackay

6) VHF radio telephone — 1 set
   Type : M90
   Maker : ITT mackay

7) Life boat radio — 1 set
   Type : 403A
   Maker : ITT mackay

8) 2182 KHz watch receiver — 1 set
   Type : 1511R
   Maker : Inteck

9) 2182 KHz auto alarm generator — 1 set
   Type : MR-370-14A
   Maker : ITT mackay

10) Auto alarm keyer — 1 set
   Type : 5103A
   Maker : ITT mackay

11) HF SSB transmitter — 1 set
   Type : 2021A
   Maker : ITT mackay

12) Telex transmitter — 1 set
   Type : MR-105-36A
   Maker : ITT mackay

13) Telex receiver — 1 set
   Type : 3030A
   Maker : ITT mackay

14) EPIRB — 1 set
   Type : ACR/RLB-14
   Maker : ACR Electronics Inc.

15) Auto alarm — 1 set
   Type : 5003C
   Maker : ITT mackay

16) Facsimile — 1 set
   Type : JAX-29S
   Maker : Japan Radio Co., Ltd.

17) Clinometer
   Pendulum L = 300 mm x 2
   CL-3PE type x 1
   CL3P type x 1
   Maker : Utsuki Precision Instrument Co., Ltd.

18) Aneroid barometer — 1 set
   Type : 2006
   Maker : Utsuki Precision Instrument Co., Ltd.

19) Air whistle — 2 sets
   Type : A200ESH
   Maker : Ibuki Kogyo Co., Ltd.

20) Loading calculator — 1 set
   Type : LC-M400
   Maker : Mitsui Engineering & Shipbuilding Co., Ltd.

D-18. Lifesaving Appliance

a) Life boat (Enclosed type) — 2 sets
   F.R.P. motor life boat, 6 knot
   7.3 m x 2.76 m x 1.15 m 44P
   Maker : Harding Safety, Inc.

b) Boat davit and boat winch
   Schat roller gravity davit type CRA — 2 sets
   Boat winch driven by electric motor — 2 sets
   Maker : Harding Safety, Inc. (Schat Davits Ltd.)

c) Life raft
   Inflatable type 25P x 2
                    6P x 1
   Maker : RFD Elliot

d) Others

Item	Quantity
Life jackets	48 sets + 1 spare
Exposure suits	48 sets (OFE)
Life buoy 2-with 32.5 m life line	30 sets
Self igniting light	15 sets
Self activating smoke singal	2 sets
Line throwing appliance	1 sets
Parachute signal	12 sets
Life raft lamp	3 sets
Boat lamp	2 sets
Portable radio for life boat	1 set
Embarkation ladder 27 m 18 m	2 sets 1 set

D-19. Fire fighting

a) Fixed fire fighting system combined with smoke detecting system.

CO2 Fire extinguishing system

(a) CO2 fire extinguishing system for cargo hold
   Protected space = Nos. 1 thru 6 cargo hold
   No. of cylinders = 186 (100 lb CO2 sylinder)

(b) CO2 fire extinguishing system for engine rm.
   Protected space = Engine rm.
   No. of cylinders = 186 (100 lb CO2 cylinder)
   Note : 186 Co2 cylinder in total is utilized for cargo hold and engine room.

(c) CO2 fire extinguishing system for emergency generator rm.
   Protected space = Engine generator rm.
   No. of cylinders = 3 (100 lb CO2 cylinder)

(d) CO2 fire extinguishing system for paint locker
   Protected space = Paint locker
   No. of cylinders = 1 (75 lb CO2 cylinder)

Maker : Chemetron

b) Portable fire fighting equipment

Item	Quantity
5 lbs. dry powder fire extingusher (model: TCP-5JH)	: 12 sets (Acc. space) 8 sets (Other space) with 20 sets for refill
10 lbs. dry powder fire extinguisher (model: TCP-10F)	: 24 sets (Eng. rm.) 1 set (Fwd. mach. space) 14 sets (Other spaces) with 39 sets for refill
15 lbs CO_2 fire extinguisher (model: 15As)	: 2 sets (Acc. space)
150 lbs dry powder fire extinguisher (model: TSDC-150CC)	: 3 sets (Eng. room) with 2 sets for refill
Self-contained breathing apparatus with life line	: 2 sets
Flame safety lamp	: 2 sets
Fire axe (long type, L=36") " (short type)	: 8 sets 2 sets
Fireman's outfits (protective clothing with helmet, boots & gloves, flush light)	: 2 sets
Fire hose (1½" x 15 m)	: 2 sets (Eng. casing. top) 7 sets (Exp. of acc. space) 15 sets (Other space)
Fire hose (1½" x 23 m)	: 15 sets (In Eng. rm.) : 3 sets (Outside of Eng. casing) : 6 sets (In Acc. space) : 2 sets (Fwd. mach. space) : 10 sets (Other space)

Fire nozzle : 2 sets
1/2" Jet water nozzle

7/8" Combined jet water and fog : 23 sets
5/8" " 37 sets

c) Fire pump

Fire & general service pump (No. 1 and No. 2 (In Eng. rm.))
- Type : Electirc, vertical, centrifugal type
- No. : 2 sets
- Capacity : 175/265 m^3/hr x t. 11.2/2.5 kg/cm^2 x suc. - 5 m
- Motor : 110 kw x 1,800 rpm

Fire & general service pump (In Fwd. mach. space)
- Type : Electric, vertical centrifugal type
- No. : 1 set
- Capacity : 175 m^3/hr x t. 8.8 kg/cm^2 x suc. -5 m
- Motor : 70 kw x 1800 rpm
- Maker : Shinko Kinzoku Ind. Co., Ltd.

d) Fire hydrant (ANSI B181.1)
: 20 sets (Eng. Rm)
: 1 set (Fwd. mach. sp.)
: 11 sets (Acc.)
: 30 sets (Other)

D-20. Hull Fitting

a) Accommodation ladder, etc.

1) Accommodation ladder
- Type : Al. alloy construction with fixed curved step type
- No. : 2 sets
- Size : 13,800 mm L x 600 mm B
- Handling : Elect. motor driven winch
- Air motor: 3.7 kw x 1800 rpm x 2 sets
- Maker : Nakano Seisakusho Co., Ltd.

2) Pilot hoist ladder

2)-1 Pilot hoist ladder
- Type : PHL-EE
- Davit : 2 sets
- Ladder : 1 set
- Motor : 2.2 kw x 1,740 rpm x 1 set
- Maker : Chuo Kogyo Co., Ltd.

2)-2 Pilot rope ladder
- No. : 4 sets (2-11.5 m, 2-16.6 m)
- Material : Manila rope and wooden steps
- Maker : Chuo Kogyo Co., Ltd.

3) Warf ladder
- Type : One section type
- No. : 1 set (10,000 mm L x 600 mm B)
- Material : Steel
- Maker : Naka Iron Works Co., Ltd.

b) Small hatch

Location	No.	Clear Opening (m/m)	Coaming Height (m/m)	Type of cover
Bolted cover for engine rm.	1	3,170x2,000	600	Weather tight steel bolted and hinged cover
Rope hatch for boatsn store	1	1,200x1,600	600	Weather tight steel hinged type
Rope hatch for steering gear rm.	1	600ϕ	450	Weather tight steel hinged type
Access hatch for No.1 - No.5 hold	5	600x600	250	"
Access hatch for duct keel	1	750x600	150	Quick acting water tight steel hinged type
Escape hatch for duct keel	1	750x600	150	"
Escape hatch for shaft tunnel	1	600x600	150	"
Escape hatch for CO_2 bottle rm.	1	600x600	150	Quick acting water tight steel hinged type
Escape hatch for emerg. gen. rm.	1	600x600	150	"

c) Steel door, etc.

1) Watertight steel door

Location	No.	Clear Opening (m/m)	Coaming Height (m/m)	Type of cover
Entrance for acc. space 2nd. dk.	2	1,750x700	200	
Under deck passageway	6	1,750x700	200	

Location	No.	Clear Opening (m/m)	Coaming Height (m/m)	Type of cover
2) Weathertight steel door				
Battery room	1	1,750x700	200	
Deck chairs	1	1,750x700	200	
Engine casing	1	1,750x600	200	
Entrance for acc. space on saloon deck	2	1,570x700	380	
Hospital	1	1,570x900	380	
Chain locker	1	900x600	600	
Boatsn's store	-	1,570x700	380	
Entrance for prov. space on upp. dk.	1	1,600x1,070	600	
Entrance for acc. space on upp. dk.	2	1,600x700	600	
Watch man's store	1	1,570x700	380	
Deck store	1	1,570x700	380	
Suez crew conf. room	1	1,600x700	600	
Companion for passageway	1	1,750x600	1,400	
Entrance for engine rm. on upp. dk.	1	1,570x600	380	
Escape truck for eng. cont. room	1	1,570x700	380	
Paint room	1	1,570x700	380	
CO_2 bottle room	1	1,570x700	380	
Eng. conference rm.	1	1,570x700	380	
Fire equip. rm.	1	1,570x700	380	
Companion for steering rm.	1	1,570x700	380	

3) Non weathertight steel door

Location	No.	Clear Opening (m/m)	Coaming Height (m/m)	Type of cover
Entrance for acc. space on saloon Dk.	2	1,750x700	200	
Entrance for front wall on Nav. Br. Dk.	2	700x600	200	
Fwd. mach. sp.	1	1,750x700	200	

d) Hand rail

1) Hand rail

In principle, stay was not provided by Owner's request.

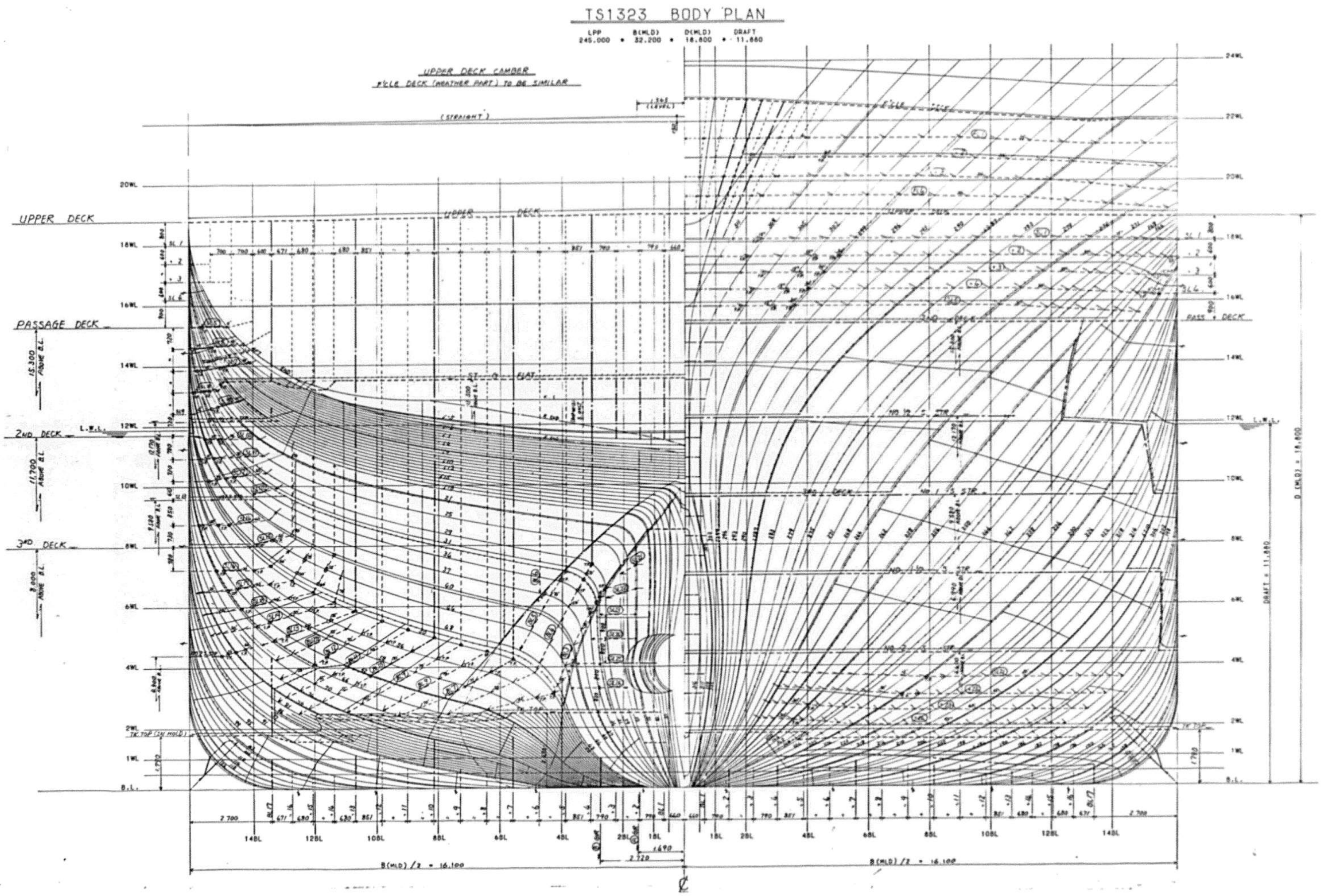
Location	Height	Top rail (galv. steel pipe)	Mid rail (Steel round bar)	Stanchion (Flat bar)
All deck	1,000	25A SGP	19ϕ x 2	50 x 16

Compressed air pipe in under deck passageway was uitilized as hand rail.

e) Davit

1) Hose davit
- Type and number : Manually operated winch 2 sets
- Hoisting capacity : 1.5 ton

2) Fore rope hatch and suez serch light use
- Type and number : Manually operated 1 set
- Hoisting capacity : 0.5 ton



PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL								

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — STRUCTURE DESIGN SEC.

SHIP'S NO. 1325 — TILLIE LYKES

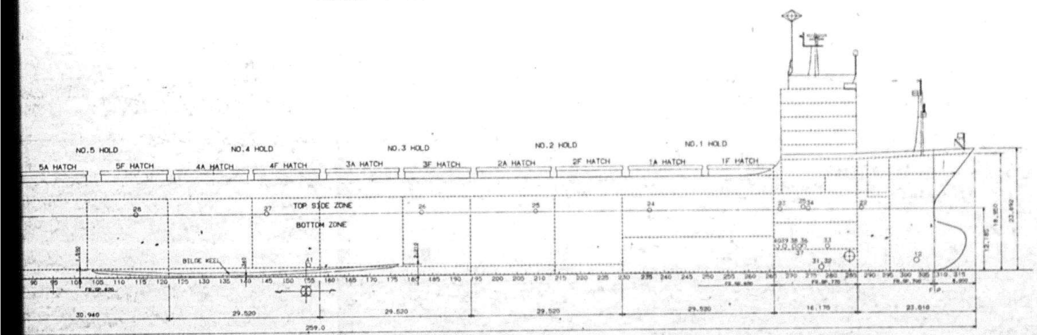
構造用正面線図

BODY PLAN

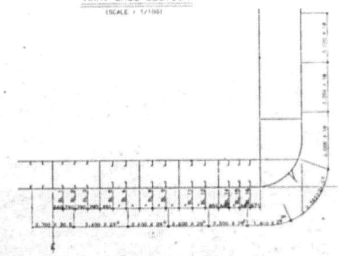
SCALE 1/50 — LYKES REF. NO. 050101 — MITSUI DRAWING NO. 2100035

DOCKING PLAN

SCALE 1:300



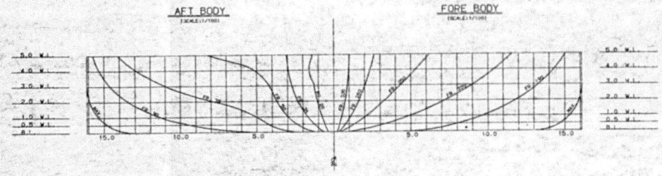
MAX. CROS SECTION



PRINCIPAL PARTICULARS

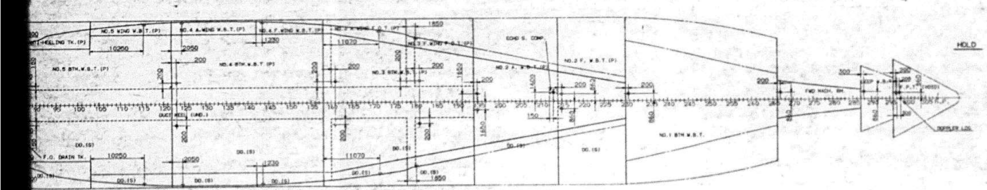
LENGTH OVER ALL	259.0 M
LENGTH BETWEEN PERPENDICULARS	245.000 M
BREADTH OVER ALL	32.284 M
BREADTH MOULDED	32.200 M
DEPTH MOULDED	18.800 M
FULL LOAD KEEL DRAFT	11.920 M

AFT BODY — FORE BODY



PAINTING AREA

BOTTOM ZONE (INCLUDES BILGE KEEL, SEA CHEST, RUDDER, RUDDER STOCK, RUDDER TRUNK, BOW THRUSTER TUNNEL, RUDDER HORN)	11,476 M^2
TOP SIDE ZONE	3,954 M^2
F'CLE SHELL	372 M^2
BOW CHOCK (OUT)	110 M^2
BOW CHOCK (IN)	288 M^2
EXPOSED WEATHER DK. (F'CLE & UPP. DK.)	3,439 M^2
EXPOSED WEATHER DK. (OTHER)	758 M^2
DECK HOUSE (OUT SIDE)	3,124 M^2



RESTRICTIONS OF CONTAINER LOAD WHEN DRY DOCKING

1. MAX. ALLOWABLE TRIM BY THE STERN = 0.50 M
2. WHEN PLACING A PACIFIC CLASS VESSEL WITH A PARTIAL LOAD OF CONTAINERS IN AN APPROVED DRYDOCK (NOTE 1) THE FOLLOWING PROCEDURES SHOULD BE FOLLOWED:

   A) NO CONTAINERS ON DECK.

   B) THE FOLLOWING MAXIMUM GROSS LOADS OF CONTAINERS IN ANY GIVEN ROW MUST NOT BE EXCEEDED. THE WEIGHT SHOULD BE DISTRIBUTE AS EVENLY AS POSSIBLE ACROSS THE ROW.

ROW NO.	MAXIMUM WEIGHT	ROW NO.	MAXIMUM WEIGHT
1	649 MT (NOTE 2)	9	640 MT
2	1131 MT (NOTE 2)	10	640 MT
4	508 MT	11	630 MT
5	610 MT	12	622 MT
7	585 MT	15	386 MT
8	622 MT	16	284 MT

3. MAXIMUM ALLOWED WEIGHT IN TANKS.

HEAVY FUEL OIL TANKS-		DIESEL OIL TANKS-	
DEEP FOT (P)	146 MT	DO TKS. (P,S)	17 MT
DEEP FOT (S)	146 MT	DO SETT. TK.	21 MT
HFO SETT. TK. (P)	116 MT	DO SERV. TK.	21 MT
HFO SETT. TK. (S)	115 MT	MAX DO	59 MT
HFO SERV. TK.	119 MT		
MAX. HFO	642 MT		

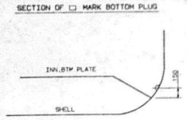
FRESH WATER TANKS-		WATER BALLAST TANKS-	
NO.1 PWT (P)	12 MT	DEEP WBT	381 MT
NO.1 PWT (S)	12 MT	NO.1 BTM. WBT	1149 MT
NO.2 PWT	11 MT	MAX. WB	1530 MT
DIST. WT	31 MT		
MAX. FW	66 MT		

NOTE: 1. AN APPROVED DRYDOCK IS ONE WHICH HAS CONFIRMED THAT THE BLOCKING SIZE AND ARRANGEMENT IS SATISFACTORY FOR DOCKING OF A PACIFIC CLASS VESSEL.

2. IF 649 MT OF CONTAINERS LOADED IN ROW NO.1 AND 1031 MT IN ROW NO.2 NO.1 BTM. WBT MUST BE EMPTY.

	MAX. ALLOWED WEIGHT	
ROW NO.1	649 MT	224 MT
ROW NO.2	1031 MT	406 MT
NO.1 BTM. WBT	EMPTY	1149 MT

SECTION OF ☐ MARK BOTTOM PLUG



FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD. TAMANO WORKS

SHIP'S NO. 1325 — TILLIE LYKES

APL MODIFICATION

DOCKING PLAN

SCALE 1/300 — LYKES REF. NO. 070001 — MITSUI DRAWING NO. 1102137M

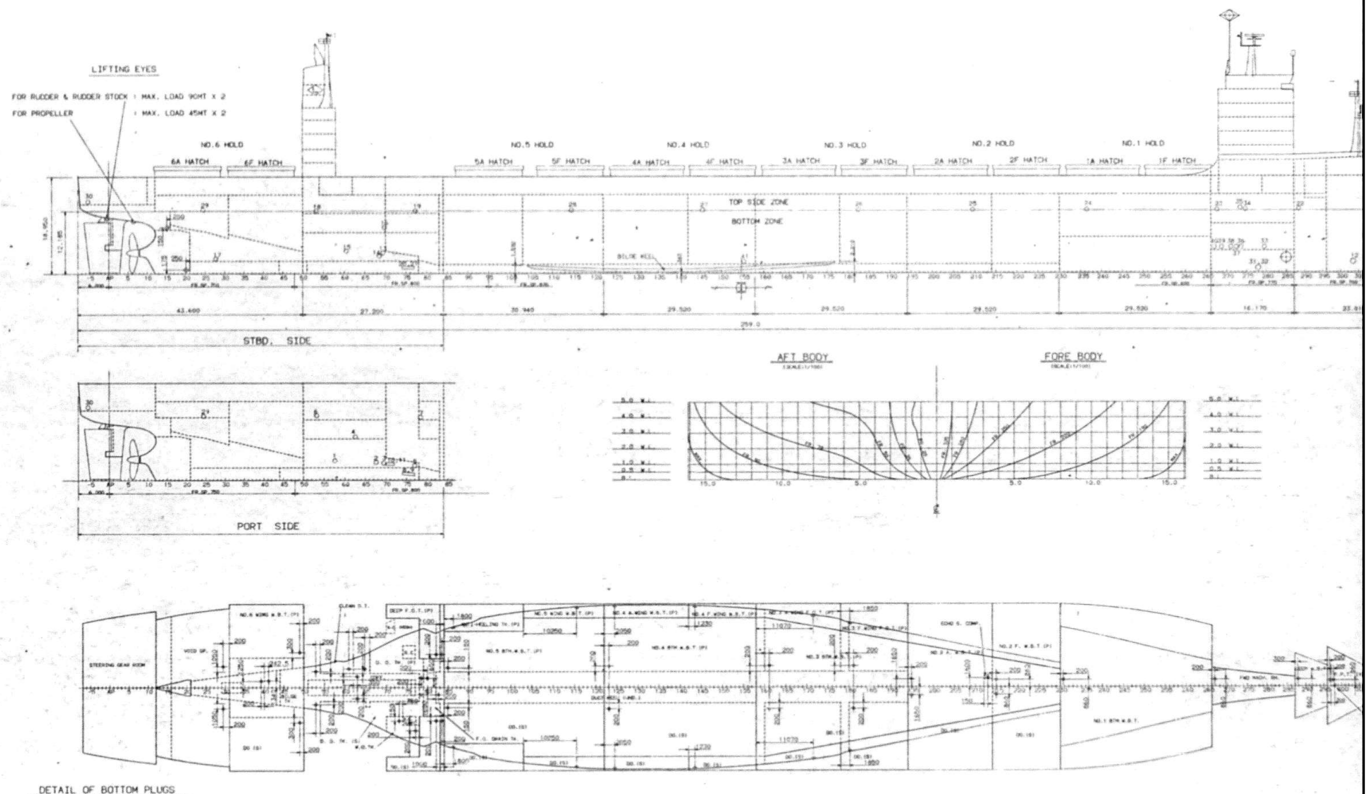
1/2 32

LOCATION OF OVERBOARD DISCHARGES AND SEA CHEST

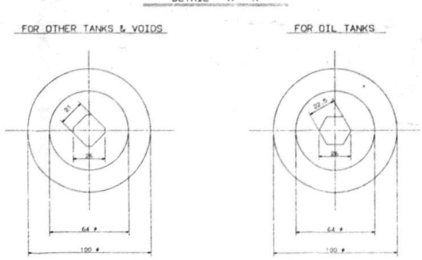
NO	DESCRIPTION	P OR S	LOCATION	DISTANCE ABOVE B.L. (MM)	SIZE OF OPEN ON SHELL PL. (MM)
1	BOILER BLOW-OFF OVERBOARD DISCHRGE	P	300 AFT FR.58	3800	40#
2	AUX. CONDENSER CIR. PUMP OVERBOARD DISCHARGE	P	200 AFT FR.68	3460	350#
3	MAIN COOL. S.W. PUMP OVERBOARD DISCHARGE	P	350 FWD FR.69	3340	400#
4	F.W. GENERATOR BRINE OVERBOARD DISCHARGE	P	450 FWD FR.62	8430	125#
5	BALLAST PUMP OVERBOARD DISCHARGE	P	FR.77	2100	300#
6	DECK SCUPPER OVERBOARD DISCHARGE	P	600 AFT FR.54	12550	150#
7	DECK SCUPPER OVERBOARD DISCHARGE MAIN COOL. S.W. PUMP SEA SUCTION (LOW) F.W. GENERATOR EJECTOR PUMP SEA SUCTION	P	300 FWD FR.78	12200	125#
8	SEA CHEST	P	FR.74-FR.77	1125 900	500x1000 500x1000
9	AIR VENT FOR SEA CHEST (LOW) BALLAST PUMP SEA SUCTION SEA CHEST (LOW) CLEANING AIR BLOW MAIN COOL. S.W. PUMP SEA SUCTION (HIGH)	P	IN	SEA	CHEST
10	SEA CHEST	P	FR.70-FR.72	2910	600X1200
11	AIR VENT FOR SEA CHEST (HIGH) SEA CHEST (HIGH) CLEANING AIR BLOW	P	IN	SEA	CHEST
12	PNEUMATIC DRAFT GAUGE	P	400 FWD FR.103	2100	60#
13	BILGE & BALLAST PUMP AND FIRE & G.S. PUMP OVERBOARD DISCHARGE	S	500 AFT FR.70	4070	350#
14	BALLAST EDUCTOR OVERBOARD DISCHARGE	S	1200 AFT FR.70	3450	150#
15	BILGE SEPARATOR OVERBOARD DISCHARGE	S	1200 AFT FR.62	4400	40#
16	ENGINE ROOM SEWAGE OVERBOARD DISCHARGE	S	200 AFT FR.70	9000	50#
17	PNEUMATIC DRAFT GAUGE	S	550 FWD FR.27	2950	60#
18	DECK SCUPPER OVERBOARD DISCHARGE	S	600 AFT FR.54	12200	150#
19	DECK SCUPPER OVERBOARD DISCHARGE BILGE & BALLAST PUMP SEA SUCTION	S	600 AFT FR.78	12200	125#
20	SEA CHEST	S	FR.74-FR.77	915	600X1000
21	FIRE & G.S. PUMP AND BILGE & G.S. PUMP SEA SUCTION AIR VENT FOR SEA CHEST (LOW) SEA CHEST (LOW) CLEANING AIR BLOW	S	IN	SEA	CHEST
22	UPPER DECK SCUPPER PIPE	P & S	200 FWD FR.286	12470	125#
23	UPPER DECK SCUPPER PIPE	P & S	300 AFT FR.268	12300	125#
24	UPPER DECK SCUPPER PIPE	P & S	1230 AFT FR.238	12300	125#
25	UPPER DECK SCUPPER PIPE	P & S	2000 FWD FR.207	12300	125#
26	UPPER DECK SCUPPER PIPE	P & S	410 AFT FR.183	12300	125#
27	UPPER DECK SCUPPER PIPE	P & S	1230 AFT FR.147	12300	125#
28	UPPER DECK SCUPPER PIPE	P & S	1230 AFT FR.116	12300	125#
29	UPPER DECK SCUPPER PIPE	P & S	400 AFT FR.25	12450	150#
30	UPPER DECK SCUPPER PIPE	P & S	450 AFT FR.-5	14150	150#
31	SEA CHEST	P	FR.277-FR.279	1180	500#
32	FWD. FIRE & G.S. PUMP SEA SUCTION AIR COND. COOL. S.W. PUMP SUCTION NO.2 PROV. REF. COOL. S.W. PUMP SUCTION NO.1 PROV. REF. COOL. S.W. PUMP SUCTION CLEAN AIR BLOW	P	IN	SEA	CHEST
33	A/C UNIT & PROV. REF. CONTAINER COOL. S.W. OVERBOARD DISCHARGE	S	300 AFT FR.279	5000	125#
34	COLD PROV. STORE DRAIN OVERBOARD DISCHARGE	S	385 AFT FR.275	12380	65#
35	GARBAGE CHUTE	S	435 AFT FR.274	13000	450#
36	POOL DRAIN OVERBOARD DISCHARGE	S	260 AFT FR.273	5000	100#
37	ACCOM. DRAINAGE OVERBOARD DISCHARGE	S	570 AFT FR.273	5000	100#
38	ACCOM. DRAINAGE OVERBOARD DISCHARGE	S	250 FWD FR.271	5000	100#
39	SOIL OVERBOARD DISCHAGE	S	385 AFT FR.269	5000	100#
40	GALLEY OVERBOARD DISCHARGE	S	260 AFT FR.267	5000	100#
41	PNEUMATIC DRAFT GAUGE	P & S	400 FWD FR.155	2100	60#

DOCKING PLAN

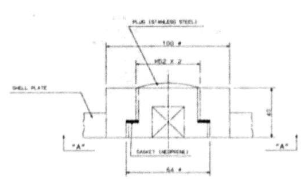
SCALE 1:300



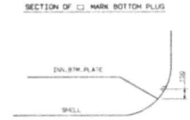
DETAIL "A"-"A"



DETAIL OF BOTTOM PLUGS



SECTION OF □ MARK BOTTOM PLUG



APPROVAL OF OWNER & REGULATORY BODIES								
ALT.NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	17 NOV '86	OFTS/ALES-1285						

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS FINISHED PLAN

SHIP DESIGN DEPARTMENT MANAGER | SHIP'S NO. 1325 | SHIP'S NAME TILLIE LYKES

CO-ORDINATION SECTION
SEC.CHIEF
ASSIST.CHIEF
CHARGE
STAFF K. Azuma
DATE (TEL)

RESULTS OF OFFICIAL SEA TRIAL
(HULL PART)

JOB NO. TS1323/24/25 | SCALE | LYKES REF. NO. 080203 | MITSUI DRAWING NO. 1102201
JOBCLASSIF.NO.

(23 SHEETS WITH COVER)

PLAN RECORD			
ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		PREPARED FOR S. NO. 1325 AS FINISHED PLAN.	NOV. 10, 1986 K.A.

: CONTENTS :

PRINCIPAL PARTICULARS

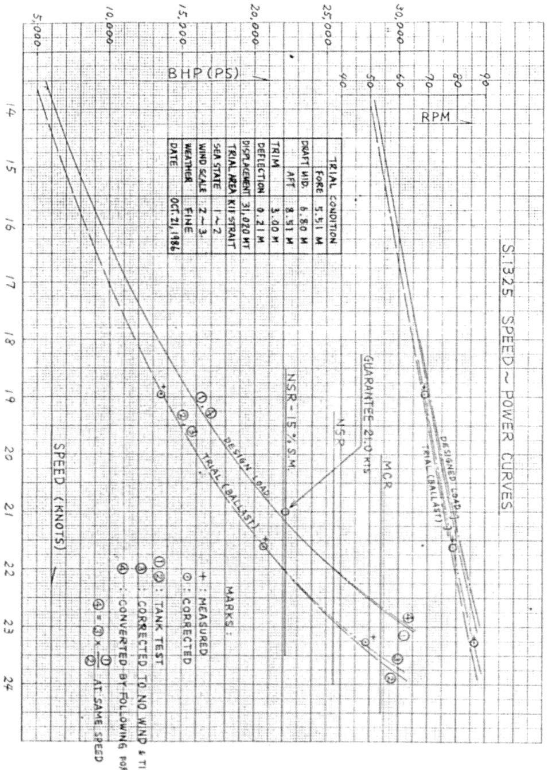
Kind of ship	:	Single screw, motor driven, container ship
Type	:	Flush decker with F'cle, Semi-aft engine and forward bridge
Class	:	The American Bureau of Shipping ✠ A1 Ⓔ , ✠ AMS, ACCU (Container Ship)
Length overall	:	259.0 m
Length between perpendiculars	:	245.00 m
Breadth moulded	:	32.200 m
Depth moulded	:	18.600 m
Load line draft (Keel draft)	:	11.920 m
Type of main engine	:	Mitsui B&W 9L80MCE x 1 set
M.C.R.	:	28,800 PS x 83.0 rpm
N.S.R.	:	25,500 PS x 79.7 rpm
Date of trial	:	20th - 21st October 1986
Place of trial	:	Kii strait and Harima nada

RESULTS OF PROGRESSIVE SPEED TRIAL

MACHINERY PARTICULARS				
MAIN ENGINE	TYPE & NO. OF SET		MITSUI B&W 9L80MCE	× 1 SET
	MCR	BHP	28,800	
		RPM	83	
	CSR	BHP	25,500	
		RPM	79.7	
	TYPE, NO. OF SET, LOCATION OF T/C		MITSUI MAN NA70	× 2 SETS AFT. (LEAD)
PROPELLER	TYPE & NO. OF SET		SOLID KEYLESS	× 1 SET
	NO. OF BLADE		5	
	DIAMETER		8,100	mm
	PITCH (MEASURED)		8,297	mm
MAIN GENERATOR	D/G	TYPE & NO.	DAIHATSU 6DL-24	× 3 SETS
		OUTPUT	1,170 PS	
	T/G	TYPE & NO.	MITSUBISHI AT-34F	× 1 SET
		OUTPUT	800 KW	

PRINCIPAL RESULTS OF OFFICIAL SEA TRIAL RUN						
KIND OF TRIAL		SPEED TRIAL				
LOAD ON MAIN ENGINE	%	50	75	MCO		
SHIP'S SPEED	Knot	18.82	21.47	23.17		
SHAFT REVOLUTION	RPM	68.9	78.9	86.4		
BRAKE HORSE POWER	PS	13750	20800	28340		
FUEL PUMP RACK INDEX	-	63.6	73.2	91.7		
FUEL PUMP/VIT INDEX	-	—	—	—		
MAX. PRESS. IN CYLINDER	Kg/cm²	77.6	103.1	124.9		
COMPRESSION IN CYLINDER	Kg/cm²	63.8	85.9	105.5		
SCAVENGING AIR PRESS.	Kg/cm²	0.8	1.36	1.88		
EXH. GAS MANIFOLD	mmAq	90	154	275		
TEMPERATURE: ENGINE ROOM	°C	31.5	31	31		
TEMPERATURE: SCAV. AIR MANIFOLD	°C	35.5	33	42		
TEMPERATURE: COOL. F.W. CYL. OUTLET	°C	78	77	78		
TEMPERATURE: EXH. GAS CYL. OUTLET	°C	263	271	296		
TEMPERATURE: EXH. GAS T/C OUTLET	°C	240 / 245	225 / 230	233 / 235		
TEMPERATURE: FUEL OIL INLET	°C	135.5	135.5	135		
REVOLUTION OF TURBOCHARGER NO. 1		6,725	8,400	9450		
REVOLUTION OF TURBOCHARGER NO. 2		6,775	8,400	9475		
FUEL CONSUMPTION	g/BHP/h	—	—	—		
	g/BHP/h	—	—	—		

FUEL OIL : S.G. : 0.9684 AT 15/4°C, NET CALORIFIC VALUE: 9,690 KCAL/KG
FIGURES SHOWN ABOVE IN (g/BHP/h) ARE CONVERTED FUEL CONSUMPTION RATE ON BASIS OF L.C.V. 10,200 KCAL/KG OIL AND ISO REFERENCED CONDITION.



ANCHORING TEST

DATE	OCT. 20, 1986
PLACE	OFF SHODO ISLAND
TIME OF TEST	12° - 0'
WEATHER	FINE
DEPTH OF WATER	43 METERS
SEA CONDITION	VERY SMOOTH SEA
TIDE	→ ◁
WIND	→ ◁ 2 M/SEC.

PARTICULARS

ANCHOR	TYPE	HIGH HOLDING POWER STOCKLESS ANCHOR (AC-14)
	WEIGHT	PORT 8160 kg, STBD. 8220 kg, SPARE 8160 kg
CHAIN	DIMENSION	78 mmφ × 667 M, GRADE 3
	WEIGHT	92.4 MT
WINDLASS	TYPE	HYDRAULIC DRIVEN (K7691 III - W320)
	LIFTING LOAD	25 MT
	LIFTING SPEED	9 M/MIN.

RESULT OF TEST

ITEM		TIME TAKEN min - sec	SPEED m/min.	HYD. OIL PRESS. (Kg/cm²) No. 2	HYD. OIL PRESS. (Kg/cm²) No. 3	MOTOR AMP. (A) No. 2	MOTOR AMP. (A) No. 3
INDEPENDENT HOISTING (BY ONE PUMP)	P	1 - 26	19.2		20 ~ 22		90 ~ 110
	S	1 - 25	19.9	19 ~ 23		100	

NOTE : ~ HOISTING SPEED WAS MEASURED 1 SHACKLE (27.5 M).

STEERING GEAR TEST

DATE	OCT. 21, 1986	SEA CONDITION	SMOOTH SEA
PLACE	KII STRAIT	DEPTH OF WATER	ABT. 300 M
TIME OF TEST	12° - 5'	SHIP SPEED	22.4 KNOTS * 12.2 KNTS
WEATHER	FINE	MAIN ENG. R.P.M.	83 RPM * 45 RPM

DESIGNED PARTICULARS

STEERING GEAR ELECT - HYDRAULIC (DF-250) type × 233 t-m (max.)
PUMP 290 ℓ/min. × (MAX.) 257 kg/cm² × 2 sets
MOTOR 75 kw × 460 volt × 118 amp × 1200 rpm × 2 sets

RESULTS OF THE TEST

	STEERING	MEASURING ANGLE	TIME TAKEN AT RUDDER HEAD (sec)	HELM ANGLE AT RUDDER HEAD (deg)	RAM PRESS (Kg/cm²)	MOTOR VOLT	MOTOR AMP	REMARKS
AHEAD	0° → P 35°	0° → P 35°	12.2	P 36.0	80	460	80	HAND OPERATION No. 1 PUMP
	P 35° → S 35°	P 35° → S 30°	24.2	S 36.0	105	460	90	
	S 35° → P 35°	S 35° → P 30°	22.3	P 35.5	90	460	90	
	P 35° → 0°	P 35° → 0°	13.0	0	27	460	50	
	0° → S 35°	0° → S 35°	15.3	S 35.3	92	460	95	HAND OPERATION No. 2 PUMP
	S 35° → P 35°	S 35° → P 30°	22.6	P 35.5	103	460	100	
	P 35° → S 35°	P 35° → S 30°	23.0	S 35.5	90	460	90	
	S 35° → 0°	S 35° → 0°	12.3	0	37	460	60	
	0° → P 15°	0° → P 15°	4.7	P 17.0	37	460	60	MECHANICAL LEVER IN STEER. G. RM. No. 2 PUMP
	P 15° → S 15°	P 15° → S 15°	9.6	S 17.0	13	460	55	
	S 15° → P 15°	S 15° → P 15°	9.7	P 16.5	58	460	70	
	P 15° → 0°	P 15° → 0°	4.7	0	15	460	55	
	0° → P 15°	0° → P 15°	4.7	P 15.2	38	460	60	* (BY EMERGENCY POWER SOURCE) HAND OPERATION No. 1 PUMP
	P 15° → S 15°	P 15° → S 15°	10.1	S 15.0	35	460	55	
	S 15° → P 15°	S 15° → P 15°	9.5	P 15.2	43	460	60	
	P 15° → 0°	P 15° → 0°	5.5	0	10	460	50	
	0° → 35°							No. PUMP
	35° → 35°							
	35° → 35°							
	35° → 0°							

TIME TAKEN TO CHANGE FROM GYRO PILOT TO MECHANICAL LEVER 10.0 sec. BY 1 PERSON
TIME TAKEN TO CHANGE FROM MECHANICAL LEVER TO GYRO PILOT 9.4 sec. BY 1 PERSON
TIME TAKEN TO STEERING GEAR "IN OPERATION" AFTER BLACKOUT 17 sec.

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TURNING CIRCLE TEST (79.7 RPM)

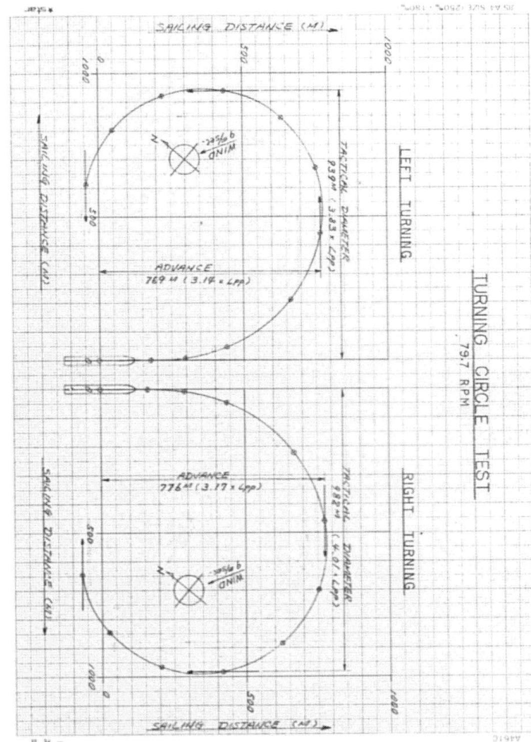
DATE	OCT. 21, 1986		DRAFT FORE	5.51 M
PLACE	KII STRAIT		DRAFT MIDSHIP	6.80 M
WEATHER	FINE		DRAFT AFT	8.51 M
SEA CONDITION	SLIGHT SEA		TRIM	3.00 M
DEPTH OF WATER	OVER 1000 M		DISPLACEMENT	31,020 MT
TURNING SIDE	LEFT	RIGHT	EQUIVALENT DRAFT (d)	6.95 M
TIME OF TEST	13°-21'	13°-0'	OUTPUT OF MAIN ENG.	N S R
ORIGINAL COURSE (deg.)	140	140	TYPE OF RUDDER	SEMI-BALLANCED
ORIGINAL R.P.M.	79.7	79.7	RUDDER AREA	54.16 M^2
ORIGINAL SPEED (kts.)	20.8	21.4	RUDDER AREA UNDER W.L.	45.89 M^2
RUDDER ANGLE (deg.)	P. 35	S. 35	Lxd / RUDD. AREA UNDER W.L.	37.11
MAX. HEEL ANGLE (deg.)	5	7		

LEFT TURNING

MARK	TURNING ANGLE	TIME TAKEN FROM ORDER (MIN. - SEC.)	ADVANCE (M)	TRANSFER (M)	R.P.M. OF MAIN ENGINE
①	5°	0 - 17	178	-1	79.7
②	15°	0 - 28	299	-8	"
③	30°	0 - 42	440	-45	79
④	60°	1 - 12	664	-211	75
⑤	90°	1 - 43	769	-443	72
⑥	120°	2 - 16	752	-669	70
⑦	150°	2 - 49	633	-845	69
⑧	180°	3 - 26	436	-939	69
⑨	210°	4 - 4	222	-922	68
⑩	240°	4 - 41	48	-803	"
⑪	270°	5 - 20	-46	-611	"
⑫	300°				
⑬	330°				
⑭	360°				

RIGHT TURNING

MARK	TURNING ANGLE	TIME TAKEN FROM ORDER (MIN. - SEC.)	ADVANCE (M)	TRANSFER (M)	R.P.M. OF MAIN ENGINE
①	5°	0 - 15	165	0	79.7
②	15°	0 - 27	292	9	78
③	30°	0 - 41	438	47	77
④	60°	1 - 12	669	220	75
⑤	90°	1 - 44	776	460	72
⑥	120°	2 - 19	754	699	70
⑦	150°	2 - 54	626	885	70
⑧	180°	3 - 33	419	982	69
⑨	210°	4 - 10	204	966	69
⑩	240°	4 - 49	25	844	68
⑪	270°	5 - 29	-67	646	"
⑫	300°				
⑬	330°				
⑭	360°				



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TURNING CIRCLE TEST (45 RPM)

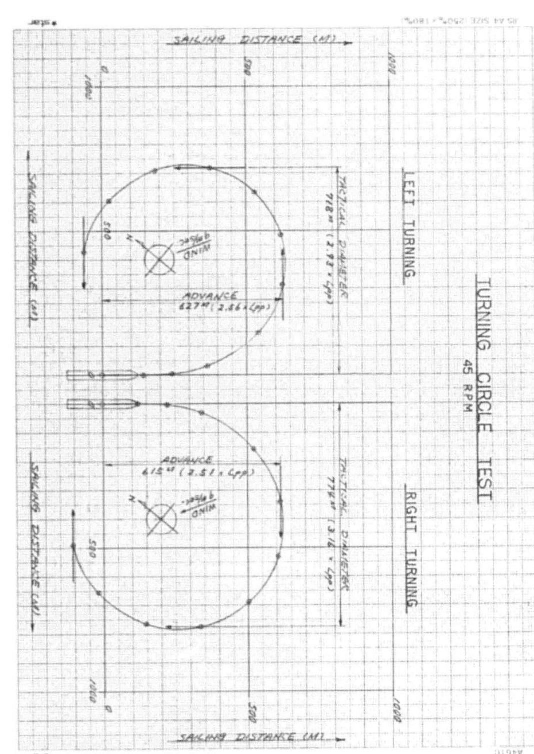
DATE	OCT. 21, 1986		DRAFT FORE	5.51 M
PLACE	KII STRAIT		DRAFT MIDSHIP	6.80 M
WEATHER	FINE		DRAFT AFT	8.51 M
SEA CONDITION	SLIGHT SEA		TRIM	3.00 M
DEPTH OF WATER	OVER 1000 M		DISPLACEMENT	31,020 MT
TURNING SIDE	LEFT	RIGHT	EQUIVALENT DRAFT (d)	6.95 M
TIME OF TEST	14°-32'	14°-15'	OUTPUT OF MAIN ENG.	45 RPM
ORIGINAL COURSE (deg.)	140	140	TYPE OF RUDDER	SEMI-BALLANCED
ORIGINAL R.P.M.	45	45	RUDDER AREA	54.16 M^2
ORIGINAL SPEED (kts.)	11.5	10.8	RUDDER AREA UNDER W.L.	45.89 M^2
RUDDER ANGLE (deg.)	P. 35	S. 35	Lxd / RUDD. AREA UNDER W.L.	37.11
MAX. HEEL ANGLE (deg.)	5	7		

LEFT TURNING

MARK	TURNING ANGLE	TIME TAKEN FROM ORDER (MIN. - SEC.)	ADVANCE (M)	TRANSFER (M)	R.P.M. OF MAIN ENGINE
①	5°	0 - 24	141	1	45
②	15°	0 - 42	242	-3	"
③	30°	1 - 5	363	-31	44
④	60°	1 - 54	541	-148	"
⑤	90°	2 - 43	627	-313	"
⑥	120°	3 - 34	622	-487	"
⑦	150°	4 - 25	532	-635	"
⑧	180°	5 - 19	373	-718	"
⑨	210°	6 - 15	187	-710	"
⑩	240°	7 - 14	26	-604	"
⑪	270°	8 - 14	-62	-429	"
⑫	300°				
⑬	330°				
⑭	360°				

RIGHT TURNING

MARK	TURNING ANGLE	TIME TAKEN FROM ORDER (MIN. - SEC.)	ADVANCE (M)	TRANSFER (M)	R.P.M. OF MAIN ENGINE
①	5°	0 - 22	122	-1	45
②	15°	0 - 40	222	2	44
③	30°	1 - 3	341	30	"
④	60°	1 - 50	523	155	"
⑤	90°	2 - 42	615	338	"
⑥	120°	3 - 36	604	529	"
⑦	150°	4 - 32	502	689	"
⑧	180°	5 - 28	337	774	"
⑨	210°	6 - 28	144	764	"
⑩	240°	7 - 30	-19	656	"
⑪	270°	8 - 30	-107	489	"
⑫	300°				
⑬	330°				
⑭	360°				



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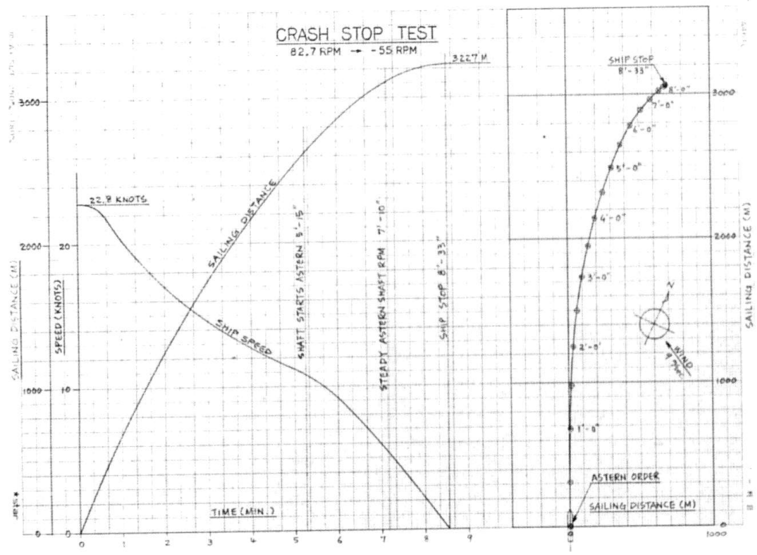
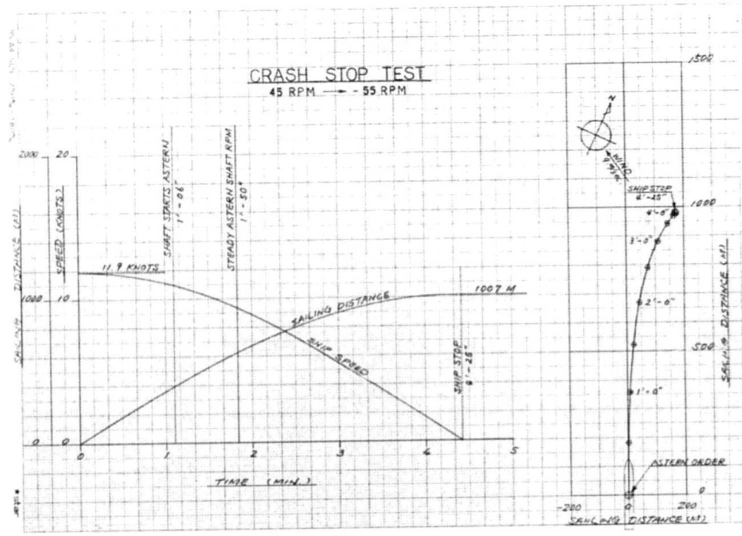


CRASH STOP TEST
(82.7RPM → -55 RPM)

DATE	OCT. 21, 1986	DRAFT FORE	5.51 M
PLACE	KII STRAIT	DRAFT MIDSHIP	6.80 M
WEATHER	FINE	DRAFT AFT	8.51 M
SEA CONDITION	SLIGHT SEA	TRIM	3.00 M
DEPTH OF WATER	OVER 1000 M	DISPLACEMENT	31,020 MT
WIND	SE abt. 9 m/sec.		

TIME OF TEST	13°-40'
ORIGINAL COURSE	335°
ORIGINAL AHEAD SPEED	22.8 knots
ORIGINAL AHEAD SHAFT R. P. M.	82.7 RPM
TIME FROM ORDER UNTIL SHAFT STOPS	5'-15"
TIME FROM ORDER UNTIL SHAFT STARTS ASTERN	5'-15"
TIME TO REACH NORMAL ASTERN SHAFT R.P.M.	7'-10"
TIME FROM ORDER UNTIL SHIP STOPS	8'-33"
TRAVEL FROM ORDER UNTIL SHIP STOPS	abt. 3227 M
STEADY ASTERN SHAFT R.P.M.	-55 RPM



CRASH STOP TEST
(45RPM → -55RPM)

DATE	OCT. 21, 1986	DRAFT FORE	5.51 M
PLACE	KII STRAIT	DRAFT MIDSHIP	6.80 M
WEATHER	FINE	DRAFT AFT	8.51 M
SEA CONDITION	SLIGHT SEA	TRIM	3.00 M
DEPTH OF WATER	OVER 1000 M	DISPLACEMENT	31,020 MT
WIND	SE abt. 9 m/sec.		

TIME OF TEST	14°-0"
ORIGINAL COURSE	335°
ORIGINAL AHEAD SPEED	11.9 knots
ORIGINAL AHEAD SHAFT R. P. M.	45 RPM
TIME FROM ORDER UNTIL SHAFT STOPS	1'-6"
TIME FROM ORDER UNTIL SHAFT STARTS ASTERN	1'-6"
TIME TO REACH NORMAL ASTERN SHAFT R.P.M.	1'-50"
TIME FROM ORDER UNTIL SHIP STOPS	4'-25"
TRAVEL FROM ORDER UNTIL SHIP STOPS	abt. 1007 M
STEADY ASTERN SHAFT R.P.M.	-55 RPM

37

BOW THRUSTER TEST

DATE	OCT. 21, 1986	DRAFT	FORE	5.51 M
PLACE	KII STRAIT		MIDSHIP	6.80 M
WEATHER	FINE		AFT	8.51 M
SEA CONDITION	SLIGHT SEA	TRIM		3.00 M
DEPTH OF WATER	OVER 1000 M	DISPLACEMENT		31,020 MT
WIND	SE abt. 12 m/sec.			

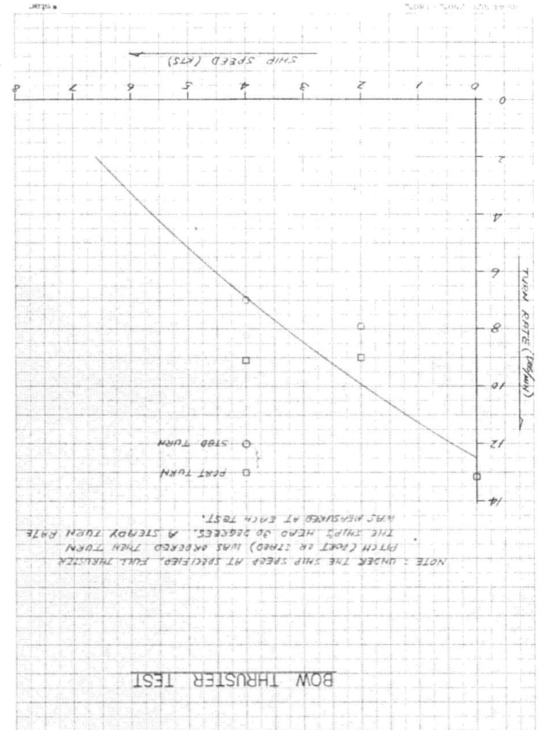
DESIGNED PARTICULARS

MAIN MOTOR		920 KW × 1200 RPM
THRUSTER :	PROPELLER DIA.	2000 MM
	REVOLUTION	267 RPM
	NO. OF BLADES	4
	THRUST	16.4 MT
HYDRAULIC UNIT :	MOTOR	3.7 KW × 1200 RPM
	OIL PUMP	35 ℓ/MIN. × 35 Kg/cm²

RESULTS OF THE TEST

SHIP SPEED (KNOTS)	OPERATING	RESPONSE TIME (SEC)	HYD. OIL PRESSURE (Kg/cm^2)	MAIN MOTOR VOLTAGE (V)	MAIN MOTOR AMPERAGE (A)	THRUSTER SHAFT REV. (RPM)
0	0° → P25°	12.5	33	4130 ~ 3900	45 ~ 167	1180
	P25° → 0°	16.0	33			"
	0° → S25°	10.9	33	4130 ~ 3890	45 ~ 165	1180
	S25° → 0°	11.5	33			"
2	0° → P25°	12.8	32.5	4130 ~ 3900	45 ~ 153	1180
	P25° → 0°	15.0	33			"
	0° → S25°	11.1	33	4130 ~ 3850	45 ~ 165	1180
	S25° → 0°	12.5	33			"
4	0° → P25°	12.0	33	4130 ~ 3860	45 ~ 153	1180
	P25° → 0°	14.5	32			"
	0° → S25°	11.0	34	4130 ~ 3880	45 ~ 170	1180
	S25° → 0°	12.3	32			"
	0° → P25°					
	P25° → 0°					
	0° → S25°					
	S25° → 0°					

NOTE : — "RESPONSE TIME" IS PITCH RESPONSE TIME FROM 0 TO FULL.

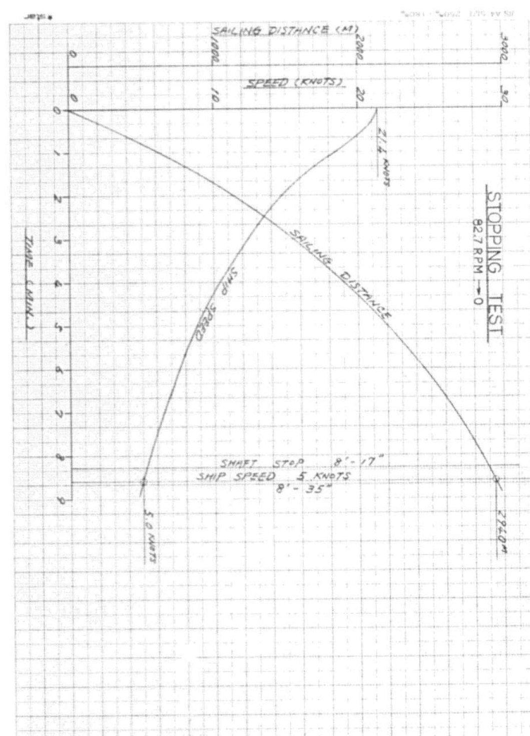


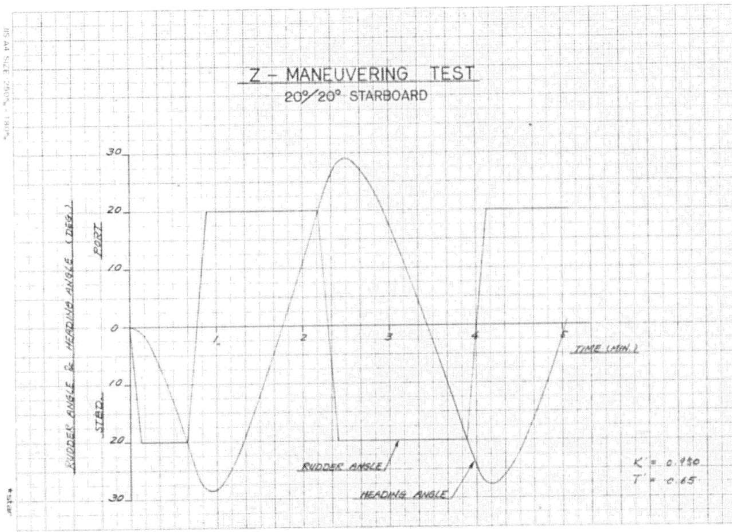
M.V. "DOCTOR LYKES"

STOPPING TEST
(82.7 RPM → 0)

DATE	MARCH 18 1986	DRAFT	FORE	5.40 M
PLACE	KII STRAIT		MIDSHIP	6.89 M
WEATHER	CLOUDS		AFT	8.37 M
SEA CONDITION	MODERATE SEA	TRIM		2.97 M
WIND	E. 8 ~ 11 M/sec.	DISPLACEMENT		31,230 MT

TIME OF TEST	22:35
ORIGINAL COURSE	100°
SHAFT R.P.M. JUST BEFORE ORDER "ENGINE STOP"	82.7 RPM
SHIP'S SPEED JUST BEFORE ORDER "ENGINE STOP"	21.4 KNOTS
TIME FROM ORDER UNTIL SHAFT STOPS	8'-17"
TIME FROM ORDER UNTIL SHIP'S SPEED BECOMES 5 KNOTS	8'-35"
TRAVEL FROM ORDER UNTIL SHIP'S SPEED BECOMES 5 KNOTS	abt. 2,940 M

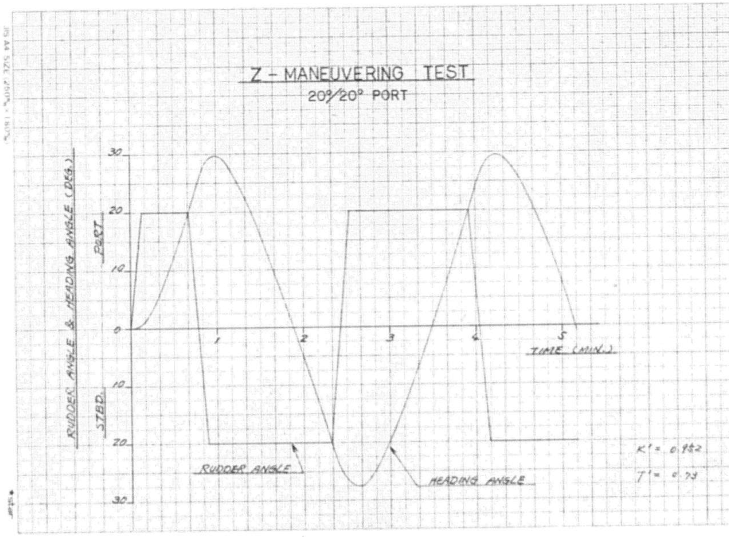




M.V. "DOCTOR LYKES"

"Z" MANEUVERING TEST

DATE		MARCH 18 1986
PLACE		KII STRAIT
TIME OF TEST		23 : 48
SEA CONDITION		MODERATE SEA
WEATHER		CLOUDS
WIND		E. 8 - 10 M/SEC.
DRAFT	FORE	5.40 M
	MIDSHIP	6.89 M
	AFT	8.37 M
TRIM		2.97 M
DISPLACEMENT		31,230 MT



APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL								

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER
SHIP'S NO.
SHIP'S NAME: **TILLIE LYKES**

OUTFIT.DESIGN SEC. — SEC.CHIEF — ASST.CHIEF — CHARGE ENG'R — STAFF

RESULTS OF OFFICIAL SEA TRIAL
(MACHINERY PART)

DATE (TEL 2225)
JOB NO.: TS1323/24/25
JOBCLASSIF.NO.: F
SCALE
LYKES REF. NO.: 080205
MITSUI DRAWING NO.: 5110008

(SHEETS WITH COVER)

NO.	ITEM	PAGE
1	PRINCIPAL RESULTS OF OFFICIAL SEA TRIAL	1
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4	DATA OF EXHAUST & FEED SYSTEM	32
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三井造船株式会社

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		WAS PREPARED FOR S.NO.1325 AS "FINISHED PLAN"	OCT. 27. '86

DWG. NO. 5110008

MACHINERY PARTICULARS

MAIN ENGINE	TYPE & NO. OF SET		MITSUI B&W 9L80MCE	× 1 SET
	MCR	BHP	28,800	
		RPM	83	
	CSR	BHP	25,500	
		RPM	79.7	
	TYPE, NO. OF SET, LOCATION OF T/C		MITSUI MAN NA70	× 2 SETS AFT, HEAD
PROPELLER	TYPE & NO. OF SET		SOLID KEYLESS	× 1 SET
	NO. OF BLADE		5	
	DIAMETER		8,100	mm
	PITCH (MEASURED)		8,297	mm
MAIN GENERATOR	D/G	TYPE & NO.	DAIHATSU 6DL-24	× 3 SETS
		OUTPUT	1,170 PS	
	T/G	TYPE & NO.	MITSUBISHI AT-34F	× 1 SET
		OUTPUT	800 KW	

PRINCIPAL RESULTS OF OFFICIAL SEA TRIAL RUN

KIND OF TRIAL			SPEED TRIAL				
LOAD ON MAIN ENGINE		%	50	75	MCO		
SHIP'S SPEED		Knot	18.82	21.47	23.17		
SHAFT REVOLUTION		RPM	68.9	78.9	86.4		
BRAKE HORSE POWER		PS	13750	20800	28340		
FUEL PUMP RACK INDEX		-	63.6	73.2	91.7		
FUEL PUMP VIT INDEX		-	—	—	—		
MAX. PRESS. IN CYLINDER		Kg/cm²	77.6	103.1	124.9		
COMPRESSION IN CYLINDER		Kg/cm²	63.8	85.9	105.5		
SCAVENGING AIR PRESS.		Kg/cm²	0.8	1.36	1.88		
EXH. GAS MANIFOLD		mmAq	90	154	275		
TEMPERATURE	ENGINE ROOM	°C	31.5	31	31		
	SCAV. AIR MANIFOLD	°C	35.5	38	42		
	COOL. F.W. CYL. OUTLET	°C	78	77	78		
	EXH. GAS CYL. OUTLET	°C	263	271	296		
	EXH. GAS T/C OUTLET	°C	240 / 245	225 / 230	235 / 235		
	FUEL OIL INLET	°C	135.5	135.5	135		
REVOLUTION OF TURBOCHARGER	NO. 1		6,725	8,400	9,450		
	NO. 2		6,775	8,400	9,475		
FUEL CONSUMPTION		g/BHP/h	—	—	—		
		g/BHP/h	—	—	—		

FUEL OIL : S.G. : 0.9684 AT 15/4°C, NET CALORIFIC VALUE: 9,690 KCAL/KG
FIGURES SHOWN ABOVE IN (g/BHP/h) ARE CONVERTED FUEL CONSUMPTION RATE ON BASIS OF L.C.V. 10,200 KCAL/KG OIL AND ISO REFERENCED CONDITION.

MACHINERY PARTICULARS				
MAIN ENGINE	TYPE & NO. OF SET		MITSUI B&W 9L80MCE	x 1 SET
	MCR	BHP	28,800	
		RPM	83	
	CSR	BHP	25,500	
		RPM	79.7	
	TYPE, NO. OF SET, LOCATION OF T/C		MITSUI MAN NA70	x 2 SETS AFT. (HEAD)
PROPELLER	TYPE & NO. OF SET		SOLID KEYLESS	x 1 SET
	NO. OF BLADE		5	
	DIAMETER		8,100	mm
	PITCH (MEASURED)		8,297	mm
MAIN GENERATOR	D/G	TYPE & NO.	DAIHATSU 6DL-24	x 3 SETS
		OUTPUT	1,170 PS	
	T/G	TYPE & NO.	MITSUBISHI AT-34F	x 1 SET
		OUTPUT	800 KW	

PRINCIPAL RESULTS OF OFFICIAL SEA TRIAL RUN

KIND OF TRIAL			ENDURANCE TRIAL				
LOAD ON MAIN ENGINE		%	CSO	CSO	MCO		
SHIP'S SPEED		Knot	—	—	—		
SHAFT REVOLUTION		RPM	83.7	82.9	85.9		
BRAKE HORSE POWER		PS	25240	25200	27975		
FUEL PUMP RACK INDEX		-	84.9	86.2	92.0		
FUEL PUMP VIT INDEX		-	—	—	—		
MAX. PRESS. IN CYLINDER		Kg/cm²	117.1	118.3	122.1		
COMPRESSION IN CYLINDER		Kg/cm²	96.5	95.2	102.8		
SCAVENGING AIR PRESS.		Kg/cm²	1.64	1.60	1.82		
EXH. GAS MANIFOLD		mmAq	250	235	285		
TEMPERATURE	ENGINE ROOM	°C	32	32	32.5		
	SCAV. AIR MANIFOLD	°C	43	43	42		
	COOL. F.W. CYL. OUTLET	°C	78	85	82		
	EXH. GAS CYL. OUTLET	°C	288	300	300		
	EXH. GAS T/C OUTLET	°C	230 / 235	240 / 245	235 / 245		
	FUEL OIL INLET	°C	135	135	136		
REVOLUTION OF TURBOCHARGER	NO. 1		9,100	9,000	9,500		
	NO. 2		9,100	9,050	9,500		
FUEL CONSUMPTION		g/BHP/h	127.6	127.6	128.0		
		g/BHP/h	(120.5)	(120.5)	(121.2)		

FUEL OIL : S.G. 0.9684 AT 15/4°C, NET CALORIFIC VALUE: 9690 KCAL/KG
FIGURES SHOWN ABOVE IN (g/BHP/h) ARE CONVERTED FUEL CONSUMPTION RATE
ON BASIS OF L.C.V. 10,200 KCAL/KG OIL AND ISO REFERENCED CONDITION.

CH. NO.				1	2	3	4	5	6	6A/6B	8	9	10
				SPEED						B.H.P.	TEMPERATURE		
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	FUEL USED	MEAS. TIME HR-MIN.	SHIP	PROPELLER		MANOEUVRING HANDLE NOTCH INDEX	ENGINE REVOLUTION	B.H.P.	TORSION METER / MIP CALCULATOR	ATMOSPHERE	ENGINE ROOM	SEA WATER
				KNOT	KNOT		-	R.P.M.	PS	PS	°C	°C	°C (100% / 46mm)
SPEED TRIAL	50	H.F.O.	07:48	19.14	18.49		7.8	68.8	13440	13200 / —	21.0	32.96	23.5 / 21.93
			08:29	18.49	18.52		7.8	69.0	14055	13900 / -	21.0	32	24.5 / 21.93
				18.82	18.51		7.8	68.9	13750	13550 / -	21.0	32.5	24 / 21.93
	75	H.F.O.	09:13	21.78	21.21		8.7	78.9	20650	20,800 / -	22.0	33.21	24.5 / 21.93
			09:49	21.16	21.07		8.7	78.9	20950	20800 / -	22.0	31	24.5 / 21.93
			-	21.47	21.14		8.7	78.9	20800	20,800 / -	22.0	32.1	24.5 / 21.93
	MCO	H.F.O.	10:32	23.37	23.17		9.6	86.2	28190	28400 / -	22.0	31	24.5 / 21.93
			11:05	22.97	23.25		9.6	86.5	28495	28600 / -	22	31	24.5 / 21.93
				23.17	23.21		9.6	86.4	28340	28,500 / -	22	31	24.5 / 21.93
ENDURANCE TRIAL	CSO	H.F.O.	19:20	–	–		9.4	83.7	25240	25,400 / -	22	35.2	25.9 / 22.4
			21:00	–	–		9.3	82.9	25200	25,000 / -	22	35.0	25.9 / 22.7
				–	–		9.4	83.3	25220	25,200 / –	22	35.1	25 / 22.6
	MCO	H.F.O.	14:00	-	–		9.4	85.9	27975	28000 / -	24	32.5	25.5 / 22.9

CH. NO.		11										
		MAIN ENGINE										
		FUEL INJECTION PUMP										
		RACK INDEX										
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	CYLINDER NO.									MEAN	CONT. ROOM IND.
		1	2	3	4	5	6	7	8	9		
SPEED TRIAL	50	64	62	62	62	64	64	64	66	66	63.8	64
		64	62	63	62	63	62	64	65	65	63.3	65
		64	62	63	62	64	63	64	66	66	63.6	65
	75	70	70	70	70	70	70	76	74	78	72	79
		74	74	73	73	74	74	76	76	76	74.4	79
		72	72	72	72	72	72	76	75	77	13.2	79
	MCO	87	89	89	90	89	89	92	92	92	90.1	94
		92	92	93	93	93	93	94	95	95	93.3	94
		91	90	91	92	91	91	93	94	94	91.7	94
ENDURANCE TRIAL	CSO	83	83	84	85	85	85	86	86	87	84.9	86
		86	86	86	86	87	85	86	87	87	86.2	89
		85	85	85	86	86	85	86	87	87	85.6	88
	MCO	91	91	92	92	92	91	93	93	93	92	94

CH. NO.		12									
		MAIN ENGINE									
		FUEL INJECTION PUMP									
		VARIABLE INJECTION TIMING INDEX									
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	CYLINDER NO.									MEAN
		1	2	3	4	5	6	7	8	9	
SPEED TRIAL	50	0.7	-0.2	-0.2	0.9	0.3	0.4	-0.3	-0.3	-0.4	–
		0.3	0	0	0.9	0.3	0.5	0	0	0	–
		0.5	-0.1	-0.1	0.9	0.3	0.5	-0.1	-0.1	-0.2	–
	75	1.5	1	0.5	2.3	2	2.5	1.5	0.9	1.3	–
		2.5	1.9	1.0	2.6	2.5	3	1.5	1.3	2	–
		2.0	1.5	0.8	2.5	2.3	2.8	1.5	1.1	1.7	–
	MCO	6.0	5.0	5.0	7.0	6.0	6.5	6.0	5.0	6.0	–
		5.5	5.0	5.0	6.5	5.5	6.0	5.5	5.0	5.5	–
		5.8	5.0	5.0	6.8	5.8	6.3	5.8	5.0	5.8	–
ENDURANCE TRIAL	CSO	6.5	5.5	5.0	6.5	4.5	5.0	4.5	4.5	4.7	–
		6.5	6.0	6.0	5.0	5.0	6.5	5.5	6.5	6.5	–
		6.0	5.8	5.5	5.8	4.8	5.8	5.0	5.5	5.6	–
	MCO	4.0	5.0	4.0	4.0	4.0	4.5	5.0	5.0	5.0	–

CH. NO.		13									
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	MAIN ENGINE / PRESSURE / MAXIMUM PRESSURE IN CYLINDER									
		CYLINDER NO. 1	2	3	4	5	6	7	8	9	MEAN
		Kg/cm2									
SPEED TRIAL	50	74	76	76	78	77	77	75	78	75	76.2
		76	78	78	83	80	81	78	78	78	78.9
		75	77	77	81	79	79	77	78	77	77.6
	75	102	102.5	102	102	107	105	102	102	97	102.4
		102	103	103	105	107	106	102.5	104	102	103.6
		102	103	103	104	107	106	102	103	100	103.1
	MCO	123	126	123	125	127	127	127	126	122	124.9
		123	124	123	125	127	128	126	125.5	123	124.9
		123	125	123	125	127	128	127	125	123	124.9
ENDURANCE TRIAL	CSO	116	118	118	118	117	117.5	116	117	116	117.1
		118	120	119	120	119	119	118	117	119	118.8
		117	119	119	119	118	118	117	117	118	118.0
	MCO	122	120	123	123	122	123	122	123	121	122.1

6

CH. NO.		14									
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	MAIN ENGINE / PRESSURE / COMPRESSION PRESSURE IN CYLINDER									
		CYLINDER NO. 1	2	3	4	5	6	7	8	9	MEAN
		Kg/cm2									
SPEED TRIAL	50	63	63	62	63	62.5	62	62.5	64	62.5	62.7
		63	67	66	65	64	64	64	65	66	64.9
		63	65	64	64	63	63	63	65	64	63.8
	75	85	89	87	85	86	84	85	86	83	85.6
		85	88	87	86	86	86	85	87	85	86.1
		85	89	87	86	86	85	85	87	84	85.9
	MCO	104	107.5	103	102.5	102.5	103	105	107	105	106.4
		107	108	108	103	105	105	107	109	107	106.6
		106	108	106	103	104	104	106	108	106	105.5
ENDURANCE TRIAL	CSO	96	99	97.5	96	95	96	96	98	95	96.5
		96	97.5	96	96	95	96	96	95	94	95.2
		96	98	97	96	95	95	96	97	95	95.9
	MCO	102	104	106	101	101	102	104	105	102	102.8

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CH. NO.		21	22	23	24	25	26	27	28	29	30
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	MAIN ENGINE / PRESSURE (LOCAL/CONT. ROOM)									
		FUEL OIL INLET	BEARING LUB. OIL INLET	PISTON COOL. OIL INLET	CAMSHAFT LUB. OIL INLET	TURBOCH. LUB. OIL INLET	CYLINDER COOL. W. INLET	AIR COOL. COOL. W. INLET	SPEED CONTROL AIR	SCAV. MANIFOLD	EXH. GAS MANIFOLD
		Kg/cm2									mmAq
SPEED TRIAL	50	— / 8.73	1.58 / 1.73	1.59 / 1.77	2.35 / 2.80	1.48 / 1.67	— / 2.88	— / 2.07	— / 4.05	0.8 / 0.63	90
		— / 8.98	1.58 / 1.71	1.59 / 1.78	2.6 / 2.7	1.48 / 1.61	— / 2.88	— / 2.01	— / 4.05	0.8 / 0.7	90
		— / 8.86	1.58 / 1.72	1.59 / 1.78	2.5 / 2.75	1.48 / 1.64	— / 2.88	— / 2.04	— / 4.05	0.8 / 0.67	90
	75	— / 8.23	1.72 / 1.88	1.73 / 1.94	2.5 / 2.68	1.6 / 1.82	— / 2.87	— / 2.06	— / 4.6	1.33 / 1.1	130
		— / 8.24	1.76 / 1.9	1.78 / 1.94	2.5 / 2.6	1.6 / 1.82	— / 2.83	— / 2.85	— / 4.6	1.38 / 1.13	178
		— / 8.24	1.74 / 1.89	1.76 / 1.94	2.5 / 2.64	1.6 / 1.82	— / 2.85	— / 2.46	— / 4.6	1.36 / 1.12	154
	MCO	— / 8.13	1.8 / 2.0	1.83 / 2.04	2.2 / 2.55	1.68 / 1.89	— / 2.84	— / 2.85	— / 4.95	1.85 / 1.5	265
		— / 8.02	1.8 / 2.0	1.83 / 2.03	2.4 / 2.5	1.68 / 1.89	— / 2.87	— / 2.85	— / 4.95	1.9 / 1.53	285
		— / 8.08	1.8 / 2.0	1.83 / 2.04	2.3 / 2.53	1.68 / 1.89	— / 2.86	— / 2.85	— / 4.95	1.88 / 1.52	275
ENDURANCE TRIAL	CSO	— / 8.09	1.75 / 1.95	1.79 / 1.98	2.9 / 3.0	1.65 / 1.87	— / 2.9	— / 2.9	— / 4.8	1.64 / 1.35	250
		— / 8.02	1.75 / 1.92	1.78 / 1.97	2.8 / 2.9	1.65 / 1.86	— / 2.85	— / 2.85	— / 4.8	1.60 / 1.3	235
		— / 8.06	1.75 / 1.94	1.79 / 1.98	2.9 / 3.0	1.65 / 1.87	— / 2.88	— / 2.88	— / 4.8	1.62 / 1.33	243
	MCO	— / 8.04	1.79 / 1.93	1.8 / 2.0	2.2 / 2.36	1.68 / 1.88	— / 2.88	— / 2.9	— / 4.77	1.82 / 1.55	285
		—					—	—	—		
		—					—	—	—		
		—					—	—	—		
		—					—	—	—		
		—					—	—	—		

8

CH. NO.		31	32	33	34	35	36		36A
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	MAIN ENGINE / TEMPERATURE (LOCAL / CONT. ROOM)							
		THRUST BEARING PAD	THRUST BEARING JOURNAL	CAMSHAFT LUB. OIL IN	CAMSHAFT LUB. OIL OUT	SCAVENG. AIR MANIFOLD	FUEL OIL INLET		FUEL OIL VISCOSITY AT M/E INLET
		°C							CSt
SPEED TRIAL	50	— / 55.4	—	41 / 39.0	42	36 / 35.5	136 / 132.7		— / 11.0
		— / 55.6	—	41.5 / 39.2	43	35 / 35.5	135 / 132.2		— / 11.0
		— / 55.5		41.3 / 39.1	42.5	36 / 35.	136 / 132.5		— / 11.0
	75	— / 57.7	—	41.5 / 39.7	43	38 / 38.5	136 / 129.9		— / 11.0
		— / 58.4	—	42 / 39.7	43	38 / 39.2	135 / 129.9		— / 11.0
		— / 58.1		41.3 / 39.7	43	38 / 38.9	136 / 129.9		— / 11.0
	MCO	— / 60.0	—	42.5 / 40.2	43	42 / 42.7	135 / 129.3		— / 11.2
		— / 60.6	—	42.5 / 40.2	43	42 / 43.2	135 / 130.9		— / 11.0
		— / 60.3		42.5 / 40.2	43	42 / 43.0	135 / 130.1		— / 11.1
ENDURANCE TRIAL	CSO	— / 58.7		42.5 / 40.2	44	43 / 43.7	135 / 130.1		— / 10.8
		— / 58.9		42.5 / 40.2	44	43 / 43.2	135 / 130.1		— / 11.0
		— / 58.8		42.5 / 40.2	44	43 / 43.5	135 / 130.5		— / 10.9
	MCO	— / 60.2	—	43 / 40.5	43.8	42 / 42.5	136 / 132.2		— / 10.5
		—							—
		—							—
		—							—
		—							—
		—							—

9

MAIN ENGINE — TEMPERATURE (LOCAL/CONT. ROOM) — EXHAUST GAS (CH. NO. 37), °C

KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	Cyl. 1	Cyl. 2	Cyl. 3	Cyl. 4	Cyl. 5	Cyl. 6	Cyl. 7	Cyl. 8	Cyl. 9		MEAN
SPEED TRIAL	50	260/267.2	260/260.7	270/268.2	260/261.9	260/278.0	260/262.7	270/266.3	270/269.2	270/271.1		264.4/268.5
		260/267.6	260/266.8	270/272.8	260/266.6	260/278.4	260/264.3	260/266.3	260/270.5	260/272.0		261.1/268.6
		260/268.4	260/258.8	270/270.5	260/261.3	260/275.7	260/263.5	265/266.3	265/269.9	265/276.6		261.8/268.6
	75	270/273.4	270/270.5	280/278.0	280/278.0	270/277.4	260/270.0	260/279.6	260/270.8	270/284.2		268.9/276.5
		260/275.7	280/272.1	280/277.4	280/276.4	260/273.1	280/276.7	280/278.3	260/271.5	280/281.6		273.3/275.9
		265/274.6	275/271.6	280/277.7	280/277.2	265/275.3	270/276.9	270/277.0	260/271.8	275/282.9		271.2/276.2
	MCO	300/295.6	300/300.8	300/310.3	280/296.3	280/297.3	300/304.8	300/293.7	300/295	300/300.2		291.1/299.3
		300/295.3	300/305.7	300/311.9	300/297.3	300/298.6	300/308.7	300/294.0	300/297.3	300/300.5		300/301
		300/295.5	300/303.3	300/311.1	270/296.8	270/298.0	300/306.8	300/293.9	300/296.2	300/300.4		295.6/299.7
ENDURANCE TRIAL	CSO	290/283.9	270/286.5	270/291.7	285/286.2	270/296.0	270/297.2	285/291.7	285/284.5	285/294.0		287.8/290.2
		300/288.8	300/295.9	300/296.6	300/292.7	300/296.3	300/303.4	300/295.7	300/288.7	300/286.6		300/286.7
		295/286.9	295/291.2	295/294.2	288/289.5	290/295.2	295/301.3	293/293.8	293/289.1	293/295.3		293.9/293.0
	MCO	300/299.5	300/308.6	300/312.9	300/298.2	300/303.1	300/312.4	300/297.9	300/296.9	300/298.2		300/303.2

MAIN ENGINE — TEMPERATURE (LOCAL/CONT. ROOM) — CYLINDER COOLING WATER OUTLET (CH. NO. 38, 39), °C

KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	CYL. COOL. WATER INLET	Cyl. 1	Cyl. 2	Cyl. 3	Cyl. 4	Cyl. 5	Cyl. 6	Cyl. 7	Cyl. 8	Cyl. 9	MEAN
SPEED TRIAL	50	70/68.6	78/73.8	78/72.7	78/73.2	78/73.5	78/73.3	78/73.8	78/73.3	78/[illegible]	78/[illegible]	78/73.1
		76/65.6	78/72.47	78/71.96	78/71.96	78/72.31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	78/71.7
		73/67.1	78/73.13	78/72.3	78/72.6	78/72.9	78/72.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	75	70/66.3	76/73.8	75/72.7	78/72.7	78/73.3	78/73.8	76/[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		70/63.3	76/72.0	76/70.9	76/71.2	76/71.5	76/70.7	76/70.7	76/70.7	76/70.7	76/71.7	76/70.7
		70/64.8	76/71.7	76/71.8	77/72.0	77/72.4	77/71.3	76/71.6	77/[illegible]	77/[illegible]	77/70.8	[illegible]
	MCO	68/62.3	78/73.8	78/72.7	78/72.7	78/73.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		66/61.5	78/73.8	78/73.2	78/73.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		67/61.7	78/73.8	78/73.0	78/72.7	78/71.1	78/71.6	[illegible]	[illegible]	[illegible]	78/71.6	[illegible]
ENDURANCE TRIAL	CSO	66/62.3	78/76.0	78/72.2	78/[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		70/62.8	86/77.8	85/76.6	86/76.6	86/77.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		68/62.6	82/75.9	82/74.9	82/74.9	82/75.6	[illegible]	81/[illegible]	81/[illegible]	81/[illegible]	80/[illegible]	81.3/[illegible]
	MCO	70/67.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MAIN ENGINE — TEMPERATURE (LOCAL/CONT. ROOM) — PISTON COOLING OIL OUTLET (CH. NO. 40, 41), °C

KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	MAIN L.O. INLET	Cyl. 1	Cyl. 2	Cyl. 3	Cyl. 4	Cyl. 5	Cyl. 6	Cyl. 7	Cyl. 8	Cyl. 9	MEAN
SPEED TRIAL	50	44/43	49/47.2	47/46.9	48/47.2	49/47.2	51/48.2	50/47.2	48/46.9	49/47.2	49/47.7	48.9/47.3
		44/43	49/47.2	48/46.9	48/47.2	49/47.2	50/48.2	50/46.9	49/46.9	49/46.9	49/47.5	49/47.2
		44/43	49/47.2	47.5/46.9	48/47.2	49/47.2	50.5/48.2	50/47.1	48.5/46.9	49/47.1	49/47.6	49/47.7
	75	44/43	50/48.2	48/47.7	49/48.0	50/48.2	52/49.2	51/47.5	50/47.7	50/48.0	50/48.2	50/48.1
		44/43	50/48.2	48/48.0	49/48.0	50/48.0	52/49.2	51/48.0	50/48.0	50/48.2	51/48.7	50.1/48.3
		44/43	50/48.2	48/47.9	49/48.0	50/48.1	52/49.2	51/47.8	50/47.9	50/48.1	50.5/48.5	50.7/48.2
	MCO	44/42.5	51/48.7	49/48.5	50/48.2	50/48.5	52/50.0	52/48.5	50/48.5	50/48.5	51/49.2	50.6/48.7
		44/42.5	51/49.0	49/48.7	50/48.7	50/48.7	52/49.8	52/48.7	51/48.7	50/48.5	50/49.2	50.6/48.9
		44/42.5	51/48.9	49/48.6	50/48.5	50/48.6	52/49.9	52/48.6	50.5/48.6	50/48.5	50.5/49.2	50.6/48.6
ENDURANCE TRIAL	CSO	44/43	51/48.7	49/48.2	50/48.2	50/48.2	52/49.5	51/48.0	51/48.0	51/48.2	51/49.0	50.7/48.4
		44/42	51/48.5	49/48.2	50/48.2	50/48.2	52/49.8	51/48.5	50/48.2	50/48.2	51/49.0	50.4/48.5
		44/42.5	51/48.6	49/48.2	50/48.2	50/48.2	52/48.7	51/48.3	50.5/48.1	50.5/48.2	51/49.0	50.6/48.5
	MCO	44/43	51/47.2	49/48.5	50/49.0	51/49.0	52/50.3	52/48.7	51/48.7	51/49.0	51/50.0	50.9/47.2

NO. 1 TURBOCHARGER (CH. NO. 51–60)

KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	REVOLUTION R.P.M. (51)	PRESSURE: DROP ACROSS INTAKE AIR FILT. mmAq (52)		DROP ACROSS AIR COOLER mmAq (54)	DROP ACROSS (55) mmHg	TEMPERATURE (LOCAL/CONT. ROOM): EXHAUST GAS BEFORE TURB. (56)	EXHAUST GAS AFTER TURB. (57)	SCAVENGING AIR (58)	SCAVENGING AIR (59)	SCAVENGING AIR AFTER COOLER (60)
SPEED TRIAL	50	6650	2.0		55	55	[illegible]	[illegible]	34	[illegible]	[illegible]
		6800	3.0		60	60	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		6725	2.5		58	58	[illegible]	[illegible]	33	[illegible]	34
	75	8.400	4.0		75	80	[illegible]	[illegible]	34	110	[illegible]
		8.400	4.0		70	75	[illegible]	[illegible]	34	110	36
		8400	4.0		73	78	[illegible]	[illegible]	34	118	34
	MCO	9400	5.0		85	90	[illegible]	[illegible]	[illegible]	[illegible]	36
		9500	5.0		80	85	[illegible]	[illegible]	35	[illegible]	33
		9450	5.0		83	88	[illegible]	[illegible]	35	[illegible]	33
ENDURANCE TRIAL	CSO	9100	5.0		75	80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		9000	4.0		[illegible]	80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		9050	5.0		75	80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	MCO	9500	5.0		80	80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CH. NO. 37 — MAIN ENGINE — TEMPERATURE (LOCAL/CONT. ROOM) — EXHAUST GAS — CYLINDER NO. (°C)

KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	1	2	3	4	5	6	7	8	9	MEAN
SPEED TRIAL	50	260/267.2	260/260.7	270/268.2	260/267.9	260/278.0	260/262.7	270/266.3	270/269.2	270/276.1	264.4/268.5
		260/267.5	260/266.8	270/272.8	260/266.6	260/270.4	260/264.3	260/266.3	260/270.5	260/272.0	261.1/268.6
		260/278.4	260/258.8	270/270.5	260/267.3	260/275.7	260/263.5	265/271.3	265/269.9	265/276.6	261.8/268.6
	75	270/273.4	270/270.5	280/278.0	280/278.0	270/277.4	260/277.0	260/279.6	260/270.8	270/284.2	268.9/276.5
		260/275.7	280/272.1	280/277.4	280/276.4	260/273.1	280/276.7	280/278.3	260/271.5	280/281.6	273.3/275.9
		265/274.6	275/271.6	280/277.7	280/277.2	265/275.3	270/276.9	270/277.0	260/271.8	275/282.9	271.2/276.2
	MCO	300/295.6	300/300.8	300/310.3	280/296.3	280/297.3	300/304.8	300/293.7	300/295	300/300.2	291.1/299.3
		300/295.3	300/305.7	300/311.9	300/297.3	300/298.6	300/308.7	300/294.0	300/297.3	300/300.5	300/301
		300/295.5	300/303.3	300/311.1	290/296.8	290/298.0	300/306.8	300/293.9	300/296.2	300/300.4	295.6/299.7
ENDURANCE TRIAL	CSO	290/283.9	270/286.5	270/291.7	285/286.2	270/294.0	270/299.2	285/291.7	285/284.5	285/294.0	287.8/290.2
		300/288.0	300/295.9	300/296.6	300/292.7	300/296.3	300/303.4	300/295.9	300/288.7	300/298.6	300/295.7
		295/286.9	295/291.2	295/294.2	288/289.5	290/295.2	295/301.3	273/293.8	293/289.1	293/295.3	293.9/293.0
	MCO	300/299.5	300/308.6	300/312.9	300/298.2	300/303.1	300/312.4	300/292.9	300/296.9	300/298.2	300/303.2

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CH. NO. 38, 39 — MAIN ENGINE — TEMPERATURE (LOCAL/CONT. ROOM) — CYLINDER COOLING WATER OUTLET (°C)

KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	CYL. COOL. WATER INLET (38)	1	2	3	4	5	6	7	8	9	MEAN
SPEED TRIAL	50	70/68.6	78/73.8	78/72.7	78/73.2	78/73.5	78/73.2	78/73.0	78/73.2	78/73.2	78/72.2	78/73.1
		76/65.6	78/72.47	78/71.96	78/71.96	78/72.21	78/71.96	78/71.96	78/71.70	78/71.96	78/70.96	78/71.9
		73/67.1	78/73.13	78/72.3	78/72.6	78/72.9	78/72.6	78/72.5	78/72.5	78/72.6	78/71.6	78/72.5
	75	70/66.3	76/73.8	75/72.7	78/72.7	78/73.2	78/73.0	76/72.5	78/72.7	78/72.7	78/71.7	77.2/72.8
		70/63.3	76/72.0	76/70.9	76/71.2	76/71.5	76/70.7	76/70.7	76/70.9	76/70.7	76/69.9	76/70.9
		70/64.8	76/72.9	76/71.8	77/72.0	77/72.4	77/71.9	76/71.6	77/72.2	77/71.7	77/70.8	76.6/71.9
	MCO	68/62.3	78/73.8	78/72.7	78/72.7	78/73.0	78/72.5	78/72.5	78/72.2	78/72.5	78/71.5	78/72.6
		66/61.5	78/73.8	78/73.2	78/73.0	78/73.2	78/72.7	78/72.7	78/72.5	78/72.7	78/71.7	78/72.8
		67/61.9	78/73.8	78/73.0	78/72.9	78/73.1	78/72.6	78/72.6	78/72.4	78/72.6	78/71.6	78/72.7
ENDURANCE TRIAL	CSO	66/62.3	78/74.0	78/73.2	78/73.2	78/73.8	77/73.8	77/73.0	78/73.0	78/73.0	76/72.2	77.6/73.2
		70/62.8	86/77.8	85/76.6	86/76.6	86/77.1	86/76.8	84/76.3	84/76.3	84/76.0	84/72.8	85/76.6
		68/62.6	82/75.9	82/74.9	82/74.9	82/75.6	82/75.3	81/74.7	81/74.7	81/74.5	80/74.1	81.3/74.9
	MCO	70/67.9	82/78.4	82/78.6	86/78.6	84/78.9	82/78.3	82/78.3	82/78.1	82/72.3	82/77.3	82.4/78.4

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CH. NO. 40, 41 — MAIN ENGINE — TEMPERATURE (LOCAL/CONT. ROOM) — PISTON COOLING OIL OUTLET (°C)

KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	MAIN L.O. INLET (40)	1	2	3	4	5	6	7	8	9	MEAN
SPEED TRIAL	50	44/43	49/47.2	47/46.9	48/47.2	49/47.2	51/48.2	50/47.2	48/46.9	49/47.2	49/47.7	48.9/47.3
		44/43	49/47.2	48/46.9	48/47.2	47/47.2	50/48.2	50/46.9	49/46.9	49/46.9	49/47.5	49/47.2
		44/43	49/47.2	47.5/46.9	48/47.2	49/47.2	50.5/48.2	50/47.1	48.5/46.9	49/47.1	49/47.6	49/47.2
	75	44/43	50/48.2	48/47.7	49/48.0	50/48.2	52/49.2	51/47.5	50/47.7	50/48.0	50/48.2	50/48.1
		44/43	50/48.2	48/48.0	49/48.0	50/48.0	52/49.2	51/48.0	50/48.0	50/48.2	51/48.7	50.1/48.3
		44/43	50/48.2	48/47.9	49/48.0	50/48.1	52/49.2	51/47.8	50/47.9	50/48.1	50.5/48.5	50.1/48.2
	MCO	44/42.5	51/48.7	49/48.5	50/48.2	50/48.5	52/50.0	52/48.5	50/48.5	50/48.5	51/49.2	50.6/48.7
		44/42.5	51/49.0	49/48.7	50/48.7	50/48.7	52/49.8	52/48.7	51/48.7	50/48.5	50/49.2	50.6/48.9
		44/42.5	51/48.9	49/48.6	50/48.5	50/48.6	52/49.9	52/48.6	50.5/48.6	50/48.5	50.5/49.2	50.6/48.6
ENDURANCE TRIAL	CSO	44/43	51/48.7	49/48.2	50/48.2	50/48.2	52/49.5	51/48.0	51/48.0	51/48.2	51/49.0	50.7/48.4
		44/42	51/48.5	49/48.2	50/48.2	50/48.2	52/49.8	51/48.5	50/48.2	50/48.2	51/48.0	50.6/48.5
		44/42.5	51/48.6	49/48.2	50/48.2	50/48.2	52/48.7	51/48.3	50.5/48.1	50.5/48.2	51/49.0	50.6/48.5
	MCO	44/43	51/47.2	49/48.5	50/49.0	51/49.0	52/50.3	52/48.7	51/48.7	51/49.0	51/50.0	50.9/49.2

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NO. 1 TURBOCHARGER

CH. NO.		51	52		54	55	56		57	58	59	60
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	REVOLUTION	PRESSURE: DROP ACROSS INTAKE AIR FILT.		PRESSURE: DROP ACROSS AIR COOLER	PRESSURE: PRESS. DIFF. SCAV. MANIFOLD & EXH. GAS REC.	TEMPERATURE (LOCAL/CONT. ROOM): EXHAUST GAS BEFORE TURB.		EXHAUST GAS AFTER TURB.	SCAVENGING AIR: BLOWER INLET	SCAVENGING AIR: BEFORE AIR COOLER	SCAVENGING AIR: AFTER AIR COOLER
		R.P.M.	mmAq		mmAq	mmHg	°C		°C	°C	°C	°C
SPEED TRIAL	50	6650	2.0		55	55	290/304.1		240	34	95	35
		6800	3.0		60	60	300/303.8		240	35	93	32
		6725	2.5		58	58	295/304.0		240	35	94	34
	75	8.400	4.0		75	80	310/322.4		225	34	110	32
		8.400	4.0		70	75	320/324		225	34	110	36
		8400	4.0		73	78	315/323.2		225	34	110	34
	MCO	9600	5.0		85	90	350/355.2		230	34.5	150	36
		9.500	5.0		80	85	350/358.1		240	35	155	33
		9450	5.0		83	88	350/356.7		235	35	153	35
ENDURANCE TRIAL	CSO	9100	5.0		75	80	330/342.0		230	37	145	32
		9000	5.0		75	80	350/353.3		240	36	150	35
		9050	5.0		75	80	340/341.8		235	37	148	34
	MCO	9500	5.0		80	80	350/360.3		235	35	155	35

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CH. NO.		61	62	63		65	67	68	69	70	71
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	NO. / TURBOCHARGER					M/E L.O. DISCH. FILTER			M/E F.O. DISCH. FILTER	
		TEMPERATURE (LOCAL/CONT. ROOM)					PRESSURE (LOCAL/REMOTE)			PRESSURE	
		COOLING WATER			LUB. OIL						
		TURB. OUT	AIR COOLER IN	AIR COOLER OUT	IN	OUTLET	INLET	OUTLET	DIFFERENTIAL	INLET	OUTLET
		°C					Kg/cm²				
SPEED TRIAL	50	74 / -	34 / 31.7	37	43	58 / 57.2	-	-	- / 0.32	8.5	8.3
		74 / -	34 / 31.5	38	43	60 / 57.2	-	-	- / 0.31	8.5	8.3
		74 / -	34 / 31.6	37.5	43	59 / 57.2	-	-	- / 0.315	8.5	8.3
	75	72 / -	34 / 31.5	42	43	63 / 61.0	-	-	- / 0.32	7.9	7.8
		70 / -	34 / 31.5	43	44	63 / 61.0	-	-	- / 0.32	7.8	7.7
		71 / -	34 / 31.5	42.5	43.5	63 / 61.0	-	-	- / 0.32	7.85	7.75
	MCO	70 / -	35 / 32.0	46	44	65 / 63.3	-	-	- / 0.34	7.8	7.6
		70 / -	34 / 31.7	47	44	66 / 63.3	-	-	- / 0.36	7.6	7.5
		70 / -	34.5 / 31.9	46.5	44	65.5 / 63.3	-	-	- / 0.35	7.7	7.55
ENDURANCE TRIAL	CSO	70 / -	34 / 31.7	40	43	64 / 62.5	-	-	- / 0.35	7.8	7.6
		70 / -	34 / 31.5	48	43	64 / 62.5	-	-	- / 0.36	7.8	7.5
		70 / -	34 / 31.6	44	43	63 / 62.5	-	-	- / 0.36	7.8	7.55
	MCO	74 / -	34 / 31.5	45	43	66 / 64.0	-	-	- / 0.36	7.8	7.5

14

CH. NO.		51	52		54	55	56		57	58	59	60
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	NO. Z TURBOCHARGER										
		REVOLUTION	PRESSURE				TEMPERATURE (LOCAL/CONT. ROOM)					
			DROP ACROSS INTAKE AIR FILT.		DROP ACROSS AIR COOLER	PRESS. DIFF. SCAV. MANIFOLD & EXH. GAS REC.	EXHAUST GAS BEFORE TURB.		AFTER TURB.	SCAVENGING AIR BLOWER INLET	BEFORE AIR COOLER	AFTER AIR COOLER
		R.P.M.	mmAq		mmAq	mmHg	°C					
SPEED TRIAL	50	6700	2.0		55	55	300 / 305.4		245	30	92	35
		6850	3.0		70	60	300 / 306.7		245	31	95	32
		6775	2.5		62.5	57.5	300 / 306.1		245	31	93.5	33.5
	75	8.400	4.0		70	80	320 / 321.7		230	34	125	32
		8.400	4.0		65	75	320 / 323		230	31.5	125	36
		8400	4.0		67.5	77.5	320 / 322.6		230	33	125	34
	MCO	9.400	5.0		80	90	350 / 352.3		235	32	130	36
		9.550	5.0		80	85	360 / 355.2		235	32	145	33
		9475	5.0		80	87.5	355 / 353.8		235	32	137.5	34.5
ENDURANCE TRIAL	CSO	9100	5.0		70	-	340 / 341.9		235	34	135	32
		9050	5.0		70	80	350 / 351.7		245	34	140	35
		9075	5.0		70	80	345 / 346.8		240	34	137.5	33.5
	MCO	9500	5.0		75	80	360 / 356.3		245	34	155	35

15

CH. NO.		61	62	63		65
KIND OF TRIAL	NOMINAL LOAD PERCENTAGE	NO. Z TURBOCHARGER				
		TEMPERATURE (LOCAL/CONT. ROOM)				
		COOLING WATER			LUB. OIL	
		TURB. OUT	AIR COOLER IN	AIR COOLER OUT	IN	OUTLET
		°C				
SPEED TRIAL	50	74 / -	34 / 31.7	38	43	58 / 56.9
		74 / -	34 / 31.5	37	43	58 / 57.2
		74 / -	34 / 31.6	37.5	43	58 / 57.1
	75	72 / -	34 / 31.5	42	43	62 / 60.2
		70 / -	34 / 31.5	42	44	62 / 60.5
		71 / -	34 / 31.5	42	43.5	63 / 60.4
	MCO	70 / -	35 / 32.0	46	44	64 / 62.5
		70 / -	34 / 31.7	46	44	64 / 62.5
		70 / -	34.5 / 31.9	46	44	64 / 62.5
ENDURANCE TRIAL	CSO	70 / -	34 / 31.7	38	43	63 / 61.5
		70 / -	34 / 31.5	48	43	64 / 61.5
		70 / -	34 / 31.6	43	43	63.5 / 61.7
	MCO	76 / -	34 / 31.5	44	43	64 / 63.0

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DATA OF AUXILIARY DURING SEA TRIAL (LOCAL/REMOTE)

NO. 1 GEN. PLANT

CH.	ITEM \ LOAD	SPEED TRIAL 50%	75%	MCO	ENDURANCE TRIAL CSO	MCO			AVERAGE
100	REVOLUTION (R.P.M.)	720	720	720	720	-			
101	VOLTAGE (V) (REMOTE)	473	474	475	473	-			
102	AMPERE (A) (REMOTE)	940	480	480	500	-			
103	OUTPUT (KW) (REMOTE)	530	298	300	300	-			
104	FREQUENCY (HZ) (REMOTE)	60	60	59.9	59.8	-			
105	FUEL RACK CYL. NO. 1	17	11	11	12	-			
	CYL. NO. 2	17	11	11	12	-			
	CYL. NO. 3	17	11	11	12	-			
	CYL. NO. 4	17	11	11	12	-			
	CYL. NO. 5	17	11	11	12	-			
	CYL. NO. 6	17	11	11	12	-			
	AVE.	17	11	11	12	-			
	PRESSURE (Kg/Cm²)								
110	MAIN L.O.	5.5	5.6	5.6	5.6	-			
111	CYL. COOL. WATER	2.7	2.7	2.7	2.7	-			
112	BOOST AIR	0.85	0.36	0.37	0.42	-			
113	FUEL OIL	5.0	5.4	5.8	5.8	-			
114	F.V. COOL. OIL	1.38	1.38	1.38	1.38	-			
116	ROCKER ARM L.O.	0.78	0.78	0.78	0.78	-			

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THERMOMETER (oC)

CH.	ITEM \ LOAD	SPEED TRIAL 50%	SPEED TRIAL 75%	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	(LUBE OIL)								
121	ENGINE INLET	56	55	55	55	–			
	(CYLINDER COOL.WATER)								
125	ENGINE INLET	63	63	63	63	–			
126	ENGINE OUTLET(REMOTE)	65	65	65	65	–			
127	EACH CYL. OUT CYL.NO.1	67	65	66	66	–			
	CYL.NO.2	67	65	66	66	–			
	CYL.NO.3	67	65	66	66	–			
	CYL.NO.4	68	65	66	66	–			
	CYL.NO.5	68	66	67	67	–			
	CYL.NO.6	68	65	65	66	–			
	AVE.	67.5	65.2	66	66.2	–			
128	T/C OUTLET STARB.	62	61	61	61	–			
	PORT.	62	62	62	62	–			
	(AIR COOLER COOL.W.)								
130	AIR COOLER INLET	37	37	37	37	–			
130A	AIR COOLER OUTLET	42	39	39	39	–			
131	L.O.COOLER INLET	43	42	42	42	–			
	(F.V.COOL.OIL)								
135	ENGINE INLET	53	52	55	55	–			
136	ENGINE OUTLET	57	56	58	58	–			
	(VALVE SEAT COOL.W.)								
137	VALVE SEAT OUTLET	–	–	–	–	–			

CH.	ITEM \ LOAD	SPEED TRIAL 50%	SPEED TRIAL 75%	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	(EXHAUST GAS)								
140	EACH CYL.OUT CYL.NO.1	300	250	260	250	–			
	CYL.NO.2	300	260	260	260	–			
	CYL.NO.3	300	250	250	250	–			
	CYL.NO.4	310	250	250	250	–			
	CYL.NO.5	310	260	260	260	–			
	CYL.NO.6	310	250	250	250	–			
	AVE.	305	253.3	255	25.3	–			
141	T/C INLET GROUP CYL.1,2,3 (REMOTE)	370	300	300	320	–			
	GROUP CYL.4,5,6 (REMOTE)	310	300	300	320	–			
142	T/C OUTLET	290	260	260	270	–			
	(BOOST AIR)								
146	AIR COOLER OUTLET	44	40	40	41	–			
	(FUEL OIL)								
150	ENGINE INLET	42	45	44	47	–			

DATA OF AUXILIARY DURING SEA TRIAL (LOCAL/REMOTE)

NO.2 GEN. PLANT

CH.	ITEM \ LOAD	SPEED TRIAL 50%	SPEED TRIAL 75%	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
100	REVOLUTION (R.P.M.)	–	–	–	–	720			
101	VOLTAGE (V) (REMOTE)	–	–	–	–	473			
102	AMPERE (A) (REMOTE)	–	–	–	–	500			
103	OUTPUT (KW) (REMOTE)	–	–	–	–	289			
104	FREQUENCY (HZ) (REMOTE)	-	–	–	–	60.1			
105	FUEL RACK CYL.NO.1	–	–	–	–	10			
	CYL.NO.2	–	–	–	–	10			
	CYL.NO.3	–	–	–	–	10			
	CYL.NO.4	–	–	–	–	10			
	CYL.NO.5	–	–	–	–	10			
	CYL.NO.6	–	–	–	–	10			
	AVE.	–	–	–	–	10			
	PRESSURE (Kg/Cm^2)								
110	MAIN L.O.	–	–	–	–	5.7			
111	CYL.COOL.WATER	–	–	–	–	2.6			
112	BOOST AIR	–	–	–	–	0.35			
113	FUEL OIL	–	–	–	–	6.6			
114	F.V. COOL. OIL	–	–	–	–	0.5			
116	ROCKER ARM L.O.	–	–	–	–	0.5			

THERMOMETER (oC)

CH.	ITEM \ LOAD	SPEED TRIAL 50%	SPEED TRIAL 75%	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	(LUBE OIL)								
121	ENGINE INLET	–	–	–	–	55			
	(CYLINDER COOL.WATER)								
125	ENGINE INLET	–	–	–	–	61			
126	ENGINE OUTLET(REMOTE)	–	–	–	–	64			
127	EACH CYL. OUT CYL.NO.1	–	–	–	–	64			
	CYL.NO.2	–	–	–	–	64			
	CYL.NO.3	–	–	–	–	64			
	CYL.NO.4	–	–	–	–	65			
	CYL.NO.5	–	–	–	–	64			
	CYL.NO.6	–	–	–	–	63			
	AVE.	–	–	–	–	64			
128	T/C OUTLET STARB.	–	–	–	–	60			
	PORT.	–	–	–	–	60			
	(AIR COOLER COOL.W.)								
130	AIR COOLER INLET	–	–	–	–	36			
130A	AIR COOLER OUTLET	–	–	–	–	38			
131	L.O.COOLER INLET	–	–	–	–	42			
	(F.V.COOL.OIL)								
135	ENGINE INLET	–	–	–	–	37			
136	ENGINE OUTLET	–	–	–	–	40			
	(VALVE SEAT COOL.W.)								
137	VALVE SEAT OUTLET	–	–	–	–	–			

CH.	ITEM \ LOAD	SPEED TRIAL 50%	SPEED TRIAL 75%	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	(EXHAUST GAS)								
140	EACH CYL.OUT CYL.NO.1	—	—	—	—	250			
	CYL.NO.2	—	—	—	—	260			
	CYL.NO.3	—	—	—	—	250			
	CYL.NO.4	—	—	—	—	265			
	CYL.NO.5	—	—	—	—	250			
	CYL.NO.6	—	—	—	—	240			
	AVE.	—	—	—	—	253			
141	T/C INLET GROUP CYL.1,2,3 (REMOTE)	—	—	—	—	300			
	GROUP CYL.4,5,6 (REMOTE)	—	—	—	—	290			
142	T/C OUTLET	—	—	—	—	250			
	(BOOST AIR)								
146	AIR COOLER OUTLET	—	—	—	—	39			
	(FUEL OIL)								
150	ENGINE INLET	—	—	—	—	44			

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HEAT EXCHANGER & PUMP

CH.	ITEM \ LOAD	SPEED TRIAL 50	SPEED TRIAL 75	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	MAIN L.O.COOLER (NO.1 /NO.2)								
200	LUBE OIL INLET (oC)	48 / 48	38 / 38	48 / 48	48 / 48	50 / 50			
201	LUBE OIL OUTLET (oC)	48 / 48	40 / 40	42 / 42	42 / 42	41 / 41			
202	COOL WATER INLET (oC)	32 / 32	33 / 34	34 / 34	34 / 34	33 / 33			
203	COOL WATER OUTLET(oC)	36 / 36	37 / 38	38 / 38	38 / 38	37 / 37			
204	CONT.VALVE POSITION FOR COOLER SIDE (%)	35 / 35	30 / 30	15 / 15	80 / 80	20 / 20			
205	DIFF.PRESS.FOR L.O. (Kg/Cm²)	0.15 / 0.15	0.15 / 0.15	0.2 / 0.2	0.2 / 0.2	0.2 / –			
206	DIFF.PRESS.FOR COOL.W. (Kg/Cm²)	0.1 / 0.1	0.1 / 0.1	0.1 / 0.1	0.1 / 0.1	0.1 / –			
	CAMFHAFT L.O.COOLER								
210	LUBE OIL INLET (oC)	43	44	44	44	46			
211	LUBE OIL OUTLET(oC)	38	38	38	38	40			
212	COOL.WATER INLET(oC)	32	32	32	32	31			
213	COOL.WATER OUTLET(oC)	36	36	34	34	34			
	CENTRAL F.W.COOLER (NO.1/NO.2)								
220	FRESH WATER (oC) INLET	38 / 38	40 / 40	43 / 43	42 / 42	41 / 41			
221	FRESH WATER (oC) OUTLET	26 / 26	26 / 26	38 / 38	27 / 27	29 / 29			
222	COOL.WATER INLET(oC)	24 / 24	24 / 24	24 / 24	24 / 24	24 / 24			
223	COOL.WATER OUTLET(oC)	28 / 28	30 / 30	34 / 34	32 / 32	34 / 34			
224	CONT.VALVE POSITION FOR COOLER SIDE (%)	35 / 35	40 / 40	60 / 60	50 / 50	55 / 55			

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CH.	ITEM \ LOAD	SPEED TRIAL 50	SPEED TRIAL 75	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
225	DIFF.PRESS.FOR F.W. (Kg/Cm²)	0.1	0.1	0.1	0.1	0.1			
226	DIFF.PRESS.FOR COOL. W. (Kg/Cm²)	0.6	0.6	0.6	0.6	0.6			
	M/E TEMP.COOL.F.W.TEMP.CONT.VALVE								
227	CONT.VALVE POSITION %	20	20	35	24	30			
	D/G HIGH TEMP.COOL.F.W.TEMP.CONT.VALVE								
228	CONT.VALVE POSITION %	10	8	5	5	5			
	AUX. CONDENSER								
230	HOT WELL (oC)	28	30	32	32	32			
231	COOL.S.W.INLET (oC)	24	24	24	24	25			
232	COOL.S.W.OUTLET (oC)	26	28	28	28	28			
233	PRESSURE INSIDE (Kg/Cm² or mmHg)	540	620	580	600	610			
	STERN TUBE L.O. COOLER								
235	L.O.INLET (OC)	28	28	28	30	32			
236	L.O.OUTLET (OC)	28	26	26	30	32			
237	COOL.W.INLET (OC)	24	34	36	36	34			
238	COOL.W.OUTLET(OC)	24	34	36	36	34			
	MAIN LUBE OIL PUMP (NO.1/NO.2)								
240	SUC.PRESS.(mmHg)	– / -300	– / -250	– / -250	– / -250	300 / –			
241	DISCH.PRESS.(Kg/Cm²)	– / 2.9	– / 3.2	– / 3.4	– / 3.3	3.4 / –			
242	AMPERE (A)	– / 165	– / 165	– / 165	– / 165	165 / –			

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CH.	ITEM \ LOAD	SPEED TRIAL 50	SPEED TRIAL 75	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	CAMSHAFT L.O. PUMP (NO.1/NO.2)								
245	SUC.PRESS. (mmHg)	– / -50	– / -50	– / -50	– / -50	50 / –			
246	DISCH.PRESS.(Kg/Cm²)	– / 3.8	– / 3.9	– / 3.9	– / 3.8	3.3 / –			
247	AMPERE (A)	– / 8.5	– / 8.6	– / 8.8	– / 8.6	8.0 / –			
	F.O.CIRC. PUMP (NO.1/No.2)								
250	SUC.PRESS.(Kg/Cm²)	– / 4.0	– / 4.0	– / 4.0	– / 4.0	4.0 / –			
251	DISCH.PRESS.(Kg/Cm²)	– / 8.5	– / 8.0	– / 8.0	– / 8.0	8.0 / –			
252	AMPERE (A)	– / 8.1	– / 8.1	– / 8.0	– / 8.0	8.2 / –			
	F.O.BOOST.PUMP (NO.1/NO.2)								
255	SUC.PRESS.(Kg/Cm²)	– / 0	– / 0	– / 0	– / 0	0 / –			
256	DISCH.PRESS.(Kg/Cm²)	– / 4.2	– / 4.2	– / 4.2	– / 4.2	4.2 / –			
257	AMPERE (A)	– / 3.4	– / 3.4	– / 3.4	– / 3.4	3.3 / –			
	MAIN COOL.S.W.PUMP (NO. 1 / NO. 2)								
265	SUC.PRESS.(Kg/Cm²)	– / 0.1	– / 0.1	– / 0.1	– / 0.1	0.1 / 0.1			
266	DISCH.PRESS.(Kg/Cm²)	– / 1.5	– / 1.5	– / 1.5	– / 1.4	1.5 / 1.5			
267	AMPERE (A)	– / 49	– / 50	– / 50	– / 50	52 / 52			
	MAIN COOL. S. W. PUMP (NO. 3)								
265	SUC.PRESS.(Kg/Cm²)	0.1	0.1	0.1	0.1	–			
266	DISCH.PRESS.(Kg/Cm²)	1.5	1.5	1.5	1.4	–			
267	AMPERE (A)	48	48	50	50	–			
	BILGE & BALLAST PUMP								
270	SUC.PRESS.(Kg/Cm²)	–	–	–	–	–			
271	DISCH.PRESS.(Kg/Cm²)	–	–	–	–	–			
272	AMPERE (A)		–	–	–	–			

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CH.	LOAD / ITEM	SPEED TRIAL 50	SPEED TRIAL 75	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	AUX.COND.CIRC.PUMP (NO.1 /NO.2)								
275	SUC.PRESS.(Kg/Cm^2)	- / 0.1	- / 0.1	- / 0.1	- / 0.1	0.1 / -			
276	DISCH.PRESS.(Kg/Cm^2)	- / 1.0	- / 1.0	- / 1.0	- / 1.0	1.0 / -			
277	AMPERE (A)	- / 59	- / 59	- / 60	- / 60	59 / -			
	BALLAST PUMP								
280	SUC.PRESS.(Kg/Cm^2)	-	-	-	-	-			
281	DISCH.PRESS.(Kg/Cm^2)	-	-	-	-	-			
282	AMPERE (A)	-	-	-	-	-			
	HEELING PUMP								
285	SUC.PRESS.(Kg/Cm^2)	-	-	-	-	-			
286	DISCH.PRESS.(Kg/Cm^2)	-	-	-	-	-			
287	AMPERE (A)	-	-	-	-	-			
	FIRE & G.S.PUMP (NO.1/NO.2)								
290	SUC.PRESS.(Kg/Cm^2)	-	-	-	-	-			
291	DISCH.PRESS.(Kg/Cm^2)	-	-	-	-	-			
292	AMPERE (A)	-	-	-	-	-			
	AUX.COND.VACUUM PUMP UNIT								
295	VACUUM PRESS.(mmHg)	670	660	620	650	630			
	LOW TEMP.COOL.F.W.PUMP (NO.1/NO.2)								
300	SUC.PRESS.(Kg/Cm^2)	- / 1.4	- / 1.4	- / 1.4	- / 1.4	1.5 / -			
301	DISCH.PRESS.(Kg/Cm^2)	- / 3.0	- / 3.0	- / 3.0	- / 3.0	3.1 / -			
302	AMPERE (A)	- / 58	- / 58	- / 58	- / 59	59 / -			

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CH.	LOAD / ITEM	SPEED TRIAL 50	SPEED TRIAL 75	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	LOW TEMP.COOL.F.W.PUMP (NO.3)								
300	SUC.PRESS.(Kg/Cm^2)	1.4	1.5	1.4	1.4	1.4			
301	DISCH.PRESS.(Kg/Cm^2)	3.0	3.0	3.0	3.0	3.0			
302	AMPERE (A)	58	58	58	58	58			
	HIGH TEMP.COOL.F.W.PUMP (NO.1/NO.2)								
305	SUC.PRESS.(Kg/Cm^2)	- / 1.4	- / 1.4	- / 1.4	- / 1.4	1.4 / -			
306	DISCH.PRESS.(Kg/Cm^2)	- / 3.0	- / 3.0	- / 3.0	- / 3.3	3.0 / -			
307	AMPERE (A)	- / 22	- / 22	- / 22	- / 22	22 / -			
	BOILER F.O. BURN.PUMP(NO.1/NO.2)								
310	SUC.PRESS.(Kg/Cm^2)	- / 0.85	- / 1.7	- / 1.7	- / 1.7	0.85 / -			
311	DISCH.PRESS.(Kg/Cm^2)	- / 7.0	- / 6.5	- / 6.5	- / 6.5	7.0 / -			
	F.O.BLEND.UNIT								
315	SUC.PRESS.(Kg/Cm^2)	0.9	0.9	0.9	0.9	0.9			
316	DISCH.PRESS.(Kg/Cm^2)	1.0	1.0	1.0	1.0	1.0			
317	F.O.INLET(oC)	-	-	-	-	-			
	D.O.TRANSF.PUMP (NO.1/NO.2)								
320	SUC.PRESS.(Kg/Cm^2)	-	-	-	-	-			
321	DISCH.PRESS.(Kg/Cm^2)	-	-	-	-	-			
322	AMPERE (A)	-	-	-	-	-			
	H.F.O.TRANSF.PUMP(NO.1/NO.2)								
325	SUC.PRESS.(Kg/Cm^2)	-	-	-	-	-			
326	DISCH.PRESS.(Kg/Cm^2)	-	-	-	-	-			
327	AMPERE (A)	-	-	-	-	-			

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CH.	LOAD / ITEM	SPEED TRIAL 50	SPEED TRIAL 75	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	F.O.PURIF.FEED PUMP (NO.1/NO.2)								
330	SUC.PRESS.(Kg/Cm^2)	/ 0.3	/ 0.3	/ 0.2	- / 0	0.2 / -			
331	DISCH.PRESS.(Kg/Cm^2)	/ 0.5	/ 0.5	/ 0.6	- / 0.6	0.6 / -			
332	AMPERE (A)	/ -	/ -	/ -	/ -	- / -			
	AUTO F.O.FILTRATOR								
335	SUC.PRESS.(Kg/Cm^2)	-	-	-	-	-			
336	DISCH.PRESS.(Kg/Cm^2)	-	-	-	-	-			
	STERN TUBE L.O.PUMP (NO.1/NO.2								
340	SUC.PRESS.(~~Kg/Cm^2~~) (mmHg)	- / -200	- / -200	- / -200	- / -250	-150 / -			
341	DISCH.PRESS.(Kg/Cm^2)	- / 1.3	- / 1.2	- / 1.2	- / 1.1	1.3 / -			
	D/G PRIMING L.O.PUMP (NO.1/NO.2)								
345	SUC.PRESS.(Kg/Cm^2)	-	-	-	-	-			
346	DISCH.PRESS.(Kg/Cm^2)	-	-	-	-	-			
	D/G PRIMING L.O.PUMP (NO.3)								
345	SUC.PRESS.(Kg/Cm^2)	-	-	-	-	-			
346	DISCH.PRESS.(Kg/Cm^2)	-	-	-	-	-			
	L.O.PURIF.BOOST.PUMP								
350	SUC.PRESS.(~~Kg/Cm^2~~) (mmHg)	-250	-250	-250	-250	-250			
351	DISCH.PRESS.(Kg/Cm^2)	1.0	1.0	1.0	1.0	1.0			
	L.O.TRANSF.PUMP								
355	SUC.PRESS.(Kg/Cm^2)		-	-	-	-			
356	DISCH.PRESS.(Kg/Cm^2)		-	-	-	-			

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CH.	LOAD / ITEM	SPEED TRIAL 50	SPEED TRIAL 75	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	PROV.REF.COOL.W.PUMP (NO.1/NO.2)								
360	SUC.PRESS.(Kg/Cm^2)	NOT RECORDED				0 / 0			
361	DISCH.PRESS.(Kg/Cm^2)					2.7 / 5.3			
362	AMPERE (A)					2.5 / 11.5			
	AIR COND.REF.COOL.W.PUMP								
365	SUC.PRESS.(Kg/Cm^2)	NOT RECORDED				0			
366	DISCH.PRESS.(Kg/Cm^2)					2.3			
367	AMPERE (A)					12			
	FORWARD FIRE & G.S.PUMP								
370	SUC.PRESS.(Kg/Cm^2)	-	-	-	-	-			
371	DISCH.PRESS.(Kg/Cm^2)	-	-	-	-	-			
372	AMPERE (A)	-	-	-	-	-			
	L.O.PURIFIER (NO.1/NO.2)								
400	FLOW METER (ℓ/h)	- / 2.0	- / 2.0	- / 2.0	- / 2.0	- / 2.0			
401	PRESSURE (Kh/Cm^2)	- / 1.2	- / 1.2	- / 1.4	- / 1.4	- / 1.4			
402	TEMPERATURE (oC)	- / 75	- / 75	- / 75	- / 75	- / 75			
403	AMPERE (A)	- / 12	- / 13	- / 13	- / 12.2	- / 12			
	AUX.L.O.PURIFIER								
405	FLOW METER (ℓ/h)	-	-	-	-	-			
406	TEMPERATURE (oC)	-	-	-	-	-			
407	AMPERE (A)	-	-	-	-	-			

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CH.	ITEM \ LOAD	SPEED TRIAL 50	SPEED TRIAL 75	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	F.O.PURIFIER (NO.1/NO.2)								
410	FLOW METER (ℓ/h)	– / 3.0	– / 3.0	– / 3.0	– / 4.0	– / 4.0			
411	PRESSURE (Kh/Cm²) (CLEAN OIL OUT)	– / 1.8	– / 1.8	– / 2.4	– / 2.4	– / 2.2			
412	PRESSURE (Kh/Cm²) (WATER OUT)	– / –	– / –	– / –	– / 0.6	– / 0			
413	TEMPERATURE (oC)	– / 95	– / 95	– / 95	– / 90	– / 90			
414	AMPERE (A)	– / 17	– / 17	– / 17	– / 18	– / 16			
	D.O.PURIFIER								
415	FLOW METER (ℓ/h)	2.5	2.5	2.5	2.5	2.5			
416	PRESSURE (Kh/Cm²)	1.7	1.7	1.8	1.7	1.8			
417	TEMPERATURE (oC)	25	26	26	30	32			
418	AMPERE (A)	8	8	8	8	8			
	MAIN AIR COMPRESSOR (NO.1/NO.2)								
450	AMPERE (A)	–	–	–	– / 110	–			
	MAIN AIR COMPRESSOR (NO.3)								
455	AMPERE (A)	–	–	–	–	–			
	TOPPING UP AIR COMPRESSOR								
460	AMPERE (A)	–	–	–	–	–			
	CONTROL UP AIR COMPRESSOR								
465	AMPERE (A)	–	–	–	–	–			
	SHIP SERV. AIR COMPRESSER								
470	AMPERE (A)	–	–	–	–	–			

CH.	ITEM \ LOAD	SPEED TRIAL 50	SPEED TRIAL 75	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO			AVERAGE
	CONTROL AIR DEHYDRATOR								
475	EVAPORATOR PRESS. (Kg/Cm²)	2.5	2.5	2.5	2.5	2.5			
476	HIGH SIDE PRESS. (Kg/Cm²)	9.0	9.0	9.0	10.0	10.0			
	SHAFT BEARING								
500	INTERMEDIATE BEARING (oC) (REMOTE) No1 / No2 / No3	34.2 / 35.2 / 33.7	36.2 / 37.0 / 35.7	38.0 / 37.2 / 37.7	38.5 / 37.2 / 38.2	40.0 / 37.0 / 40.0			
501	STERN TUBE BEARING (oC) (REMOTE)	29.7	31.5	32.7	32.2	33.7			
	STERN TUBE L.O.								
510	STERN TUBE L.O.(oC) INLET	28	29	29	31	31			
511	STERN TUBE L.O.(oC) OUTLET	30	31	31	32	34			
512	STERN TUBE L.O. PRESS.(Kg/Cm²)	1.1	1.1	1.1	1.1	1.1			

TURBO GENERATOR DATA

DATE : OCT. 21~22, '86

CH NO.	MEASURING TIME				TIME	SPEED TRIAL 50%	SPEED TRIAL 75%	SPEED TRIAL MCO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL CSO	ENDURANCE TRIAL MCO
					TIME	8:29	9:49	11:05	19:20	21:00	14:00
700	GENERATOR SPEED				RPM	NOT USED	1,800	1,800	1,800	1800	1800
701	OUTPUT				KW		301	304	320	340	356
702	STEAM PRESS.	MAIN			Kg/cm²G		5.2(5.09)	6.2(5.62)	6.4(6.7)	6.2(5.98)	8.7(8.62)
703	STEAM PRESS.	1ST CHEST			Kg/cm²G		0.8	1.0	0.9	0.8	0.8
704	STEAM PRESS.	GLAND			-		0.1	0.1	0.1	0.1	0.1
705	STEAM PRESS.	EXHAUST			mmHg		650	620	630	640	640
706	STEAM TEMP.	MAIN			°C		200(209)	202(216)	210(222)	200(212)	210(220)
707	STEAM TEMP.	EXHAUST			°C		50	56	52	50	50
708	OIL PRESS.	L.O.			Kg/cm²G		1.25(1.09)	1.2(1.08)	1.1(1.06)	1.1(1.07)	1.1(1.06)
709	OIL PRESS.	GOVERNOR			Kg/cm²G		5.2	5.3	5.2	5.2	5.2
710	GOVERNOR	CYL. LIFT			mm RATE		18	18	15	16	14
711	GOVERNOR	LOAD IND.			mm RATE		4.1	4.2	3.6	3.7	3.0
712	GOVERNOR	SYNCH. MOTOR			mm RATE		8.2	8.3	8.2	8.2	8.2
713	TEMPERATURE	OIL COOLER	WATER	IN	°C		–	–	–	–	–
714	TEMPERATURE	OIL COOLER	WATER	OUT	°C		39	38	38	39	38
715	TEMPERATURE	OIL COOLER	OIL	IN	°C		51	52	52	52	50
716	TEMPERATURE	OIL COOLER	OIL	OUT	°C		45(44)	44(44)	44(44)	44(44)	44(–)
717	TEMPERATURE	BEARING	TURBINE	EMERG. S.	°C		–(51)	–(51)	–(52)	–(51)	–(52)
718	TEMPERATURE	BEARING	TURBINE	THRUST	°C		–(56)	–(57)	–(57)	–(57)	–(57)
719	TEMPERATURE	BEARING	PINION	TURB. S.	°C		55(52)	52(52)	52(53)	56(53)	54(–)
720	TEMPERATURE	BEARING	PINION	GEN. S.	°C		58(50)	56(50)	56(50)	58(50)	56(–)
721	TEMPERATURE	BEARING	WHEEL	TURB. S.	°C		52(47)	52(47)	52(47)	52(47)	52(–)
722	TEMPERATURE	BEARING	WHEEL	GEN. S.	°C		52(52)	52(52)	52(52)	53(52)	52(–)
723	TEMPERATURE	BEARING	GEN.	TURB. S.	°C		–(48)	–(49)	–(50)	–(50)	–(49)
724	TEMPERATURE	BEARING	GEN.	EXC. S	°C		42(40)	42(41)	42(42)	44(42)	44(42)

( ): GE MONITOR

DATE :

CH NO.			TIME MEASURED		SPEED TRIAL 50%	SPEED TRIAL 75%	SPEED TRIAL MCO
					8:29	9:49	11:05
-	MAIN ENGINE		Revolution	r.p.m.	REFER TO PAGE 3		
	MAIN ENGINE		Output (BHP)	PS			
600	EXHAUST GAS	TEMP.	Super heater inlet	°C	228(232)	221(221)	230(229)
601	EXHAUST GAS	TEMP.	Economizer inlet	°C	228	221	230
602	EXHAUST GAS	TEMP.	Economizer outlet	°C	196	182	190
603	EXHAUST GAS	TEMP.	Preheater outlet	°C	149(137)	148(132)	150(138)
604	EXHAUST GAS	PRESSURE	Super heater inlet	mmWC	107	158	236
605	EXHAUST GAS	PRESSURE	Economizer inlet	mmWC	101	155	230
606	EXHAUST GAS	PRESSURE	Economizer outlet	mmWC	86	110	173
607	EXHAUST GAS	PRESSURE	Preheater outlet	mmWC	35	37	65
608	STEAM & HEAT. WATER	PRESSURE	Aux. boiler steam drum	Kg/cm²	–(11.63)	–(5.7)	–(6.66)
609	STEAM & HEAT. WATER	PRESSURE	Superheater steam out	Kg/cm²	–	–	–
610	STEAM & HEAT. WATER	PRESSURE	Economizer boiler water out	Kg/cm²	–	–	–
611	STEAM & HEAT. WATER	PRESSURE	Preheater feed water out	Kg/cm²	–	–	–
612	Auxiliary boiler steam drum level			N.W.L. ± mm	–	–	–
613	Flasher level			N.W.L. ± mm	–	–	–
614	Boiler water economizer outlet temp.			°C	–	–	–
615	Feed water preheater in/out temp.			°C	100 / 162(160)	75 / 156(160)	38 / 156(157)
616/617	Feed pump		Suc./disch. press.	Kg/cm²	–	–	–
618	Feed pump		Ampere	A	–	–	–
619/620	Boiler water circulating pump		Suc./disch. press.	Kg/cm²	–	–	–
621	Boiler water circulating pump		Ampere	A	–	–	–
622/623	Condensate pump		Suc./disch. press.	Kg/cm²	60mmHg / 3.5	60mmHg / 3.5	60mmHg / 3.5
624	Condensate pump		Ampere	A	–	–	–
625	Steam pressure in flasher			Kg/cm²	–(1.52)	–(0.68)	–(0.72)
626	Excess steam dump valve opening			%	–	–	–
627	Mixed steam dump valve opening			%	–	–	–

CH NO.	MEASURING TIME		TIME	8:29	9:49	11:05	19:20	21:00	14:00						
725	GENERATOR	VOLTAGE	V	NOT USED	475	475	475	475	474						
726		FREQUENCY	Hz		59.8	59.9	59.7	59.7	60						
727	GLAND COND.	COOL. W. IN/OUT	°C		37/37	37/37	37/37	37/37	37/37						
728		VACUUM PRESS.	mmAq		19	20	16	10	10						
729	VIBRATION		μm		24	23	23	23	35						

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FUEL CONSUMPTION MEASUREMENT CSO (WITH T/C BY-PASS)

TIME MEASURED		HR:MIN	1HR 9.8 SEC.			MEAN
MAIN ENGINE OUTPUT (SEE PAGE)	B.H.P.	PS	25200			
FUEL OIL	FLOW METER READING	Litre	3500			
	TEMPERATURE AT FLOW METER	°C	82			

CALCULATION OF FUEL CONSUMPTION RATE

1. KIND OF FUEL USED

NET CALORIFIC VALUE Q = 9690 KCAL/KG

SPECIFIC GRAVITY ρ_o = 0.9684 AT 15/4 °C

SPECIFIC GRAVITY ρ_m = 0.9281 AT 82 °C

2. FUEL CONSUMPTION PER HOUR

TOTAL FUEL FLOW DURING MEASUREMENT Ft = 3500 Litre

TOTAL HOUR OF MEASUREMENT T = 1 Hour 9.8 SEC

THEN, FUEL CONSUMPTION PER HOUR WILL BE:

$G_1 = Ft \times 10^3 \times \rho m/T$ = 3214.9 Kg/hour

CALIBRATED FUEL CONSUMPTION ON THE BASE OF NET CALORIFIC VALUE 10,200 KCAL/KG OIL AND ISO REFERENCED CONDITION IS

Gc = 3037.2 Kg/hour

3. FUEL CONSUMPTION RATE

* USED OIL BASE VALUE: 127.6 g/BHP/hr

* CALIBRATED VALUE ON THE BASE OF L.C.V. 10,200 KCAL/KG OIL AND ISO REFERENCE CONDITION

: 120.5 g/BHP/hr

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FUEL CONSUMPTION MEASUREMENT CSO (WITHOUT T/C BY-PASS)

TIME MEASURED		HR:MIN	56MIN. 27.6 SEC			MEAN
MAIN ENGINE OUTPUT (SEE PAGE)	B.H.P.	PS	25240			
FUEL OIL	FLOW METER READING	Litre	3300			
	TEMPERATURE AT FLOW METER	°C	82			

CALCULATION OF FUEL CONSUMPTION RATE

1. KIND OF FUEL USED

NET CALORIFIC VALUE Q = 9690 KCAL/KG

SPECIFIC GRAVITY ρ_o = 0.9684 AT 15/4 °C

SPECIFIC GRAVITY ρ_m = 0.9281 AT 82 °C

2. FUEL CONSUMPTION PER HOUR

TOTAL FUEL FLOW DURING MEASUREMENT Ft = 3300 Litre

TOTAL HOUR OF MEASUREMENT T = 0 Hour 56MIN. 27.6SEC.

THEN, FUEL CONSUMPTION PER HOUR WILL BE:

$G_1 = Ft \times 10^3 \times \rho m/T$ = 3220 Kg/hour

CALIBRATED FUEL CONSUMPTION ON THE BASE OF NET CALORIFIC VALUE 10,200 KCAL/KG OIL AND ISO REFERENCED CONDITION IS

Gc = 3042 Kg/hour

3. FUEL CONSUMPTION RATE

* USED OIL BASE VALUE: 127.6 g/BHP/hr

* CALIBRATED VALUE ON THE BASE OF L.C.V. 10,200 KCAL/KG OIL AND ISO REFERENCE CONDITION

: 120.5 g/BHP/hr

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FUEL CONSUMPTION MEASUREMENT (M.C.O.)

TIME MEASURED		HR:MIN	1HR 39.73 SEC			MEAN
MAIN ENGINE OUTPUT (SEE PAGE)	B.H.P.	PS	27975			
FUEL OIL	FLOW METER READING	Litre	3900			
	TEMPERATURE AT FLOW METER	°C	74			

CALCULATION OF FUEL CONSUMPTION RATE

1. KIND OF FUEL USED

NET CALORIFIC VALUE Q = 9690 KCAL/KG

SPECIFIC GRAVITY ρ_o = 0.9684 AT 15/4 °C

SPECIFIC GRAVITY ρ_m = 0.9329 AT 74 °C

2. FUEL CONSUMPTION PER HOUR

TOTAL FUEL FLOW DURING MEASUREMENT Ft = 3900 Litre

TOTAL HOUR OF MEASUREMENT T = 1 Hour 39.73 SEC

THEN, FUEL CONSUMPTION PER HOUR WILL BE:

$G_1 = Ft \times 10^3 \times \rho m/T$ = 3581.5 Kg/hour

CALIBRATED FUEL CONSUMPTION ON THE BASE OF NET CALORIFIC VALUE 10,200 KCAL/KG OIL AND ISO REFERENCED CONDITION IS

Gc = 3389.8 Kg/hour

3. FUEL CONSUMPTION RATE

* USED OIL BASE VALUE: 128.0 g/BHP/hr

* CALIBRATED VALUE ON THE BASE OF L.C.V. 10,200 KCAL/KG OIL AND ISO REFERENCE CONDITION

: 121.2 g/BHP/hr

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EXH. GAS ECONOMIZER EVAPORATION TEST

DATE : OCT. 21.'86

CH NO.			TIME MEASURED		CSO WITH T/C BY-PASS 20:45	CSO WITH T/C BY-PASS 21:45	CSO WITHOUT T/C BY-PASS 18:50	CSO WITHOUT T/C BY-PASS 19:50	MEAN
-	MAIN ENGINE		Revolution	r.p.m.	Refer to page 3				
			Output (BHP)	PS					
600	EXHAUST GAS	TEMP.	Super heater inlet	°C	–	240	–	228	
601			Economizer inlet		–	240	–	228	
602			Economizer outlet		–	195	–	187	
603			Preheater outlet		–	148	–	146	
604		PRESSURE	Super heater inlet	mmWC	–	197	–	196	
605			Economizer inlet		–	190	–	191	
606			Economizer outlet		–	146	–	147	
607			Preheater outlet		–	47	–	49	
608	STEAM & HEAT. WATER	PRESSURE	Aux. boiler steam drum	Kg/cm^2	7.0	6.5	7.8	8.6	
609			Superheater steam out		6.8	6.2	7.4	8.2	
610			Economizer boiler water out		7.2	6.9	8.5	8.8	
611			Preheater feed water out		17	17	17	17	
612	Auxiliary boiler steam drum level			N.W.L. ± mm	0	0	0	0	
613	Flasher level				+250	+250	+200	-100	
614	Boiler water economizer outlet temp.			°C	179	177	169	168	
615	Feed water preheater in/out temp.				–/159	87/157	–/160	97/159	
616/617	Feed pump		Suc./disch. press.	Kg/cm^2	3.0/20.0	2.2/20.0	2.5/19.0	2.3/20.0	
618			Ampere	A	47	47	47	48	
619/620	Boiler water circulating pump		Suc./disch. press.	Kg/cm^2	6.6/10.0	6.4/10.0	7.5/11.0	8.0/12.0	
621			Ampere	A	9.2	9.2	9.1	9.1	
622/623	Condensate pump		Suc./disch. press.	Kg/cm^2	60cmHg/3.0	60cmHg/3.0	60cmHg/3.0	60cmHg/3.2	
624			Ampere	A	10	10.5	10.5	10.5	
625	Steam pressure in flasher			Kg/cm^2	1.5	0.8	1.0	0.8	

CH NO.	TIME MEASURED				20:45	21:45	18:50	19:50	MEAN
626	Excess steam dump valve opening			%	0	0	0	0	
627	Mix. press. steam dump valve opening				–	0	0	0	
-	Feed amount	Feed amount by flow meter (Specific weight)	No. 1	L/h	9802.5 (34°C) (0.994?)		8?8/4 (32°C) (0.99?)		
			No. 2		0		0		
		Feed amount by level deviation (Specific weight)		L/h	0 0		0 -246.9 ℓ (0.994?)		
		Total feed amount		L/h	9802.5		8828.3		
-	Evaporation (~~Corrected value in design basis~~)			Kg/h	9743.7		8771.6		

FRESH WATER GENERATOR DATA
(FRESH WATER GENERATOR TEST)

TEST DATE : OCT. 21.'86

CH NO.	TEST NO.		1	2	AVERAGE
	TIME	Hr-min.	DURATION 1 HR 38' 28"		
-	Quantity of distilled water	Ton/day	READING 2500 ℓ	4170 ℓ	39.66 TON/DAY
800	Shell vacuum	mmHg	720	730	
801	Shell temperature	°C	53	52	
802	Heating F.W. inlet temp.		82	79	
803	Heating F.W. outlet temp.		70	68	
804	Cooling S.W. inlet temp.		28	28	
805	Cooling S.W. outlet temp.		38	37	
806	Salinity of distilled w.	P.P.M.	1.2	1.0	
807/808	Ejector pump suc./disch. press.	Kg/cm^2	0.18/4.4	0.18/4.4	
809	F.W. pump disch. press.		3.1	3.1	

Remarks:

1. The above test was carried out at the main engine revolution of 83 r.p.m. (about 90% M.C.O.).
2. In order to get adequate flow of heating F.W. to F.W. generator, open by pass valve 2FV-103 and close 2FV-32. (Refer to "Cool. F.W. Piping Diagram in Eng. Room" (Dwg. No. 5131016))

MAIN ENGINE STARTING TEST

OCT. 20.'86

AHEAD NO. OF TEST	AHEAD BEFORE START (Kg/cm^2)	AHEAD AFTER START (Kg/cm^2)	ASTERN NO. OF TEST	ASTERN BEFORE START (Kg/cm^2)	ASTERN AFTER START (Kg/cm^2)	AHEAD NO. OF TEST	AHEAD BEFORE START (Kg/cm^2)	AHEAD AFTER START (Kg/cm^2)	ASTERN NO. OF TEST	ASTERN BEFORE START (Kg/cm^2)	ASTERN AFTER START (Kg/cm^2)
1	30.0	28.5	2	28.5	27.3	35	5.0	NOT START			
3	27.3	26.2	4	26.2	25.0						
5	25.0	24.0	6	24.0	23.0						
7	23.0	22.0	8	22.0	21.4						
9	21.4	20.5	10	20.5	20.0						
11	20.0	19.0	12	19.0	18.5						
13	18.5	18.0	14	18.0	17.5						
15	17.5	17.0	16	17.0	16.4						
17	16.4	16.0	18	16.0	15.5						
19	15.5	15.0	20	15.0	14.5						
21	14.5	14.0	22	14.0	13.5						
23	13.5	13.0	24	13.0	12.8						
25	12.8	11.5	26	11.5	10.5						
27	10.5	9.5	28	9.5	8.6						
29	8.6	8.0	30	8.0	7.4						
31	7.4	6.5	32	6.5	6.0						
33	6.0	5.5	34	5.5	5.0						

CAPACITY OF AIR RESERVOIR: 23.5 m^3 (NO. / RESERVOIR USED)

REMARK:
(1) MAIN ENG. L.O. INLET TEMP. : 43 °C
(2) MAIN ENG. F.W. INLET TEMP. : 55 °C
(3) CONTROL POSITION : WHEEL HOUSE

MAIN ENGINE STARTING TEST   OCT 20.'86

AHEAD NO. OF TEST	AHEAD STARTING AIR PRESSURE BEFORE START (Kg/cm²)	AHEAD AFTER START	ASTERN NO. OF TEST	ASTERN STARTING AIR PRESSURE BEFORE START (Kg/cm²)	ASTERN AFTER START	AHEAD NO. OF TEST	AHEAD STARTING AIR PRESSURE BEFORE START (Kg/cm²)	AHEAD AFTER START	ASTERN NO. OF TEST	ASTERN STARTING AIR PRESSURE BEFORE START (Kg/cm²)	ASTERN AFTER START
1	29.8	28.5	2	28.5	26.6	35	7.0	6.8	36	6.8	6.5
3	26.6	25.1	4	25.1	24.0	37	6.5	6.3	38	6.3	NOT START
5	24.0	22.0	6	22.0	20.8						
7	20.8	19.8	8	19.8	18.8						
9	18.8	18.0	10	18.0	17.5						
11	17.5	16.8	12	16.8	16.0						
13	16.0	15.8	14	15.8	15.1						
15	15.1	14.8	16	14.8	14.1						
17	14.1	13.8	18	13.8	13.3						
19	13.3	12.9	20	12.9	12.5						
21	12.5	12.0	22	12.0	11.8						
23	11.8	11.1	24	11.1	10.9						
25	10.9	10.3	26	10.3	10.0						
27	10.0	9.6	28	9.6	9.0						
29	9.0	8.7	30	8.7	8.5						
31	8.5	8.0	32	8.0	7.8						
33	7.8	7.5	34	7.5	7.0						

CAPACITY OF AIR RESERVOIR: 23.5 m³ (NO. 2 RESERVOIR USED)

REMARK:
(1) MAIN ENG. L.O. INLET TEMP. : 43°C
(2) MAIN ENG. F.W. INLET TEMP. : 55°C
(3) CONTROL POSITION : ENG. CONT. ROOM

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MINIMUM REVOLUTION TEST

Item	
TEST DATE	OCT. 20 '86
MAIN ENGINE REVOLUTION (R.P.M.)	22.4
SHIP SPEED (KNOTS)	5.5
HANDLE NOTCH NO.	1.1
SPEED CONT. AIR PRESS. (Kg/cm²)	0.95
C/R PUMP MARK INDICATOR	40
SCAVENGING AIR PRESS. (Kg/cm²)	—
T/C REVOLUTION (R.P.M.) No. 1	1,850
T/C REVOLUTION (R.P.M.) No. 2	1,850

CYLINDER NO.	PUMP MARK	EXHAUST GAS LOCAL (°C)	EXHAUST GAS C/R (°C)	COOL. W. OUT LOCAL (°C)	COOL. W. OUT C/R (°C)
1	36	150	138	74	70
2	35	140	114	74	70
3	36	150	125	74	70
4	36	140	124	74	70
5	36	140	118	74	70
6	36	150	120	74	70
7	37	150	110	74	70
8	38	160	127	74	70
9	38	150	124	74	69
MEAN	36.4	148	122	74	70

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S. NO. 1325
RESULT OF EXH. GAS TEMP. MEASUREMENT
AT M/E RPM IN HARBOUR
(FUEL OIL USED ; DIESEL OIL)   OCT. 20 '86

M/E RPM	NO. 1 TURBO CHARGER INLET	NO. 1 TURBO CHARGER OUTLET	NO. 2 TURBO CHARGER INLET	NO. 2 TURBO CHARGER OUTLET
25	145	143	150	148
30	175	156	170	163
45	200	195	205	203
55	240	228	240	231

三井造船株式会社

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FUEL OIL & LUBRICATING OIL ANALYSIS

FUEL OIL

KIND		DIESEL OIL	HEAVY OIL
SPECIFIC GRAVITY	15/4°C	—	0.9684
VISCOSITY (at 50°C)	Cst	—	270.5
FLASH POINT	°C	—	—
GROSS CALORIFIC VALUE	Kcal/Kg	—	10,290
NET CALORIFIC VALUE	Kcal/Kg	—	9,690

LUBRICATING OIL

KIND		L.O. FOR MAIN ENG.	CYL. O. FOR MAIN ENG.
BRAND		MELINA OIL 30	ALEXIA OIL 50
SPECIFIC GRAVITY	15/4°C	0.897	0.945
VISCOSITY (at 40°C)	Cst	104	259 (at 100°F)
FLASH POINT	°C	241	223
RESIDUAL CARBON	%	VIS INDEX 102, TBN 8.0	TBN 70

KIND		L.O. FOR AUX. ENG.
BRAND		GADINIA OIL 30
SPECIFIC GRAVITY	15/4°C	0.897
VISCOSITY	Cst	104
FLASH POINT	°C	235
RESIDUAL CARBON	%	VIS INDEX 102, TBN 11

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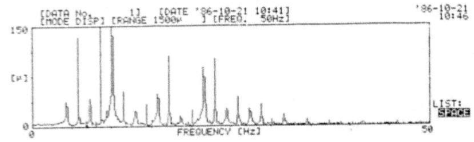
SHAFT GENERATOR BEARING VIBRATION MEASUREMENT
(M/E RPM : 86.3RPM)
OCT. 21, '86

(UP-DOWN)

[DATA No. 1] [DATE '86-10-21 10:41] '86-10-21 10:46
[MODE DISP] [RANGE 1500µ] [FREQ. 50Hz]



[DATA No. 1] [DATE '86-10-21 10:41] '86-10-21 10:47
[MODE DISP] [RANGE 1500µ] [FREQ. 50Hz]

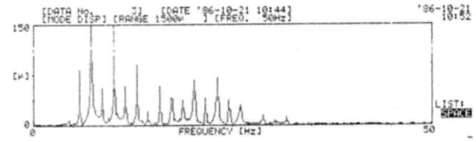
OVERALL 361.5µ

[No.]	[FREQUENCY]	[SPECTRUM]
1	9.625Hz	158.2µ
2–9	[illegible]	[illegible]
10	7.250	42.0

REPLAY: FFT FFT DISPLAY: SPACE

(STARB - PORT)

[DATA No. 3] [DATE '86-10-21 10:44] '86-10-21 10:52
[MODE DISP] [RANGE 1500µ] [FREQ. 50Hz]



[DATA No. 3] [DATE '86-10-21 10:44] '86-10-21 10:53
[MODE DISP] [RANGE 1500µ] [FREQ. 50Hz]

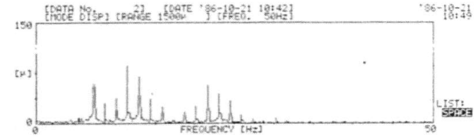
OVERALL 371.2µ

[No.]	[FREQUENCY]	[SPECTRUM]
1	7.250Hz	219.0µ
2–9	[illegible]	[illegible]
10	17.250	41.2

REPLAY: FFT FFT DISPLAY: SPACE

(FORE-AFT)

[DATA No. 2] [DATE '86-10-21 10:42] '86-10-21 10:49
[MODE DISP] [RANGE 1500µ] [FREQ. 50Hz]



[DATA No. 2] [DATE '86-10-21 10:42] '86-10-21 10:50
[MODE DISP] [RANGE 1500µ] [FREQ. 50Hz]

OVERALL 168.0µ

[No.]	[FREQUENCY]	[SPECTRUM]
1	11.500Hz	96.2µ
2–9	[illegible]	[illegible]
10	20.125	[illegible]

REPLAY: FFT FFT DISPLAY: SPACE

APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL								

MITSUI ENGINEERING & SHIPBUILDING CO., LTD. SHIP QUALITY ASSURANCE DEPT. 14. NOV. 1986

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP Q. A. DEPARTMENT
~~SHIP DESIGN DEPARTMENT~~

SHIP'S NO. **1325** SHIP'S NAME **TILLIE LYKES**

MANAGER M. Harada
SEC. CHIEF M. Fujisaki
ASSIST. CHIEF
CHARGE ENG'R T. Katsumura
STAFF M. Ohara
DATE 11. Nov. 86 (TEL. 2290)

FINAL INSPECTION RESULTS FOR MISCELLANEOUS EQUIPMENT

JOB NO. TS1323/24/25
JOBCLASSIF. NO.
SCALE
LYKES REF. NO. 080208
MITSUI DRAWING NO. 5110009

(SHEETS WITH COVER)

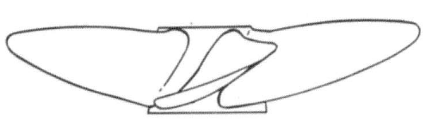
TS1325 TILLIE LYKES

- CONTENTS -

P.1

CUSTOMER: MITSUI ENGINEERING & S/B LTD
SMM REF. NO: Z.8395B
SHIP/~~BOOK~~ NO: 1325

SMM



INSPECTION REPORT

SMM PROPELLERS LIMITED, BIRKENHEAD

ALL TOLERANCES TO I.S.O. [1]

INSPECTION RECORD FOR PROPELLER No. Z 8395B.

CUSTOMER: MITSUI ENGINEERING & S/B LTD
DRAWING NO.: 29380 M ISSUE 'B'
DIAM.: 8100 m/m
SHIP OR CLASS:
MATERIAL: NIKALIUM
PITCH: 7942 m/m
BUILDERS NO.: 1325.
SURVEY AUTHORITY: AMERICAN BUREAU OF SHIPPING
SURFACE: 33-290 M²
CERT. NO.: 86-LP 19674-29-X
BLADES: 5
HAND: RIGHT.

BLADE	% MEAN PITCH OF BLADE	BLADE RADIUS DEVIATION mm	BLADE TRACK SEC mm 8	ANGULAR SPACING BETWEEN CENTRES OF BLADES
1	-0.62	✓	1562	1&2 = 72°
2	-0.51	✓	1561	2&3 = 72°
3	-0.14	-4	1559	3&1 or 4 = 72°
4	+0.42	✓	1556	4&1 or 5 = 72°
5	-0.25	+1	1552	5&1 or 6 = 72°
6				6&1 or 7 =
7				7&1 =

PROPELLER TOTAL PITCH ERROR = -0.22 %; TOLERANCE = ± 0.75%

BLADE	BLADE WIDTH RAD 1215	RAD 1620	RAD 2025	RAD 2430	RAD 2835	RAD 3240	RAD 3645	RAD 3848	RAD m/m	RAD
1	✓	+2	+4	+5	+2	-2	-4	+3		
2	+5	+2	✓	✓	✓	-2	-4	-4		
3	+3	+2	✓	-2	-2	-4	-5	-4		
4	+2	+4	+4	+5	+2	✓	-3	-3		
5	+3	✓	-3	-3	+2	+4	-3	+2		
6										
7										
DESIGN WIDTH	1816	1998	2160	2296	2365	2278	1859	1389	m/m.	
TOL										

ACTUAL WEIGHT: 42,320 Kgs.
STATIC BALANCE AT TIP: 10 ~~lbs~~ kgs

INSPECTORS SIGNATURE: [signature]
DATE: 2.1.86.

TOLERANCE FOR BLADE RADIUS BASED ON ± 0.5% OF BLADE RADIUS
TOLERANCE FOR SEC'N WIDTH BASED ON ± 1% OF SEC'N WIDTH
TOLERANCE FOR BLADE TRACK BASED ON ± 1% OF PROP. DIA.

P.2

A = MEASURED
B = DESIGNED
C = DIFFERENCE IN MINS.

PITCH RECORDS

JOB NO: 2/8395
BLADE NO: 2 (TWO)
DATE OF ISSUE: 2/1/86.

LOCAL PITCH ANGLES

Sec'n pitch Design	Actual		Sec.	Rad.	Leading half							Trailing half						Tol 2% mins.
		A								45°27'	42°28'	42°37'	42°30'					
		B																
	7010	C	·3							-24	-25	-07	-07					
		A								38·15	36·15	36·28	36·20					
		B																
	7485	C	·4							-07	-19	-06	-14					
		A					34·22	33·10	32·18	32·02	31·28	31·52	32·16	32·11	31·38			
		B																
	7902	C	·5															
		A					29·46	28·50	28·10	28·22	28·05	28·16	28·19	28·05	28·18			
		B																
	8189	C	·6				-04	-03	-24	✓	-17	-06	-03	-17	-04			
		A					25·48	25·00	24·54	24·50	24·50	25·28	25·28	25·39	25·10			
		B																
	8375	C	·7				+07	-16	-19	-23	-23	+15	+15	+26	-03			
		A					21·57	22·13	21·58	21·58	22·10	22·10	22·13	22·27	22·15			
		B																
	8281	C	·8				-08	+05	-13	-17	-10	-13	-13	-04	-17			
		A							18·30	18·43	1912	1915	1948					
		B																
	7928	C	·9						-08	-08	-04	-21	-11					
		A							1706	17·06	17·46	17·50	18·51					
		B																
	7726	C	·95						+18	+02	+10	-15	+16					
		A																
		B																
		C																
		A																
		B																
		C																

TOLERANCE BASED ON ± 2% OF SECTION PITCH MEAN PITCH OF BLADE 7862 TO BE WITHIN ± OF 7903

SMM PROPELLERS LIMITED

P.4

A = MEASURED
B = DESIGNED
C = DIFFERENCE IN MINS.

PITCH RECORDS

JOB NO: Z/8395
BLADE NO: 4 (FOUR)
DATE OF ISSUE: 2/1/86.

LOCAL PITCH ANGLES

Sec'n pitch Design	Actual		Sec.	Rad.	Leading half							Trailing half						Tol 2% mins.
		A								45°39'	43°12'	43°14'	42°49'					
		B																
	7125	C	·3							-12	+19	+28	+10					
		A								38·45	36·47	36·58	36·41					
		B																
	7618	C	4							+23	+13	+24	+07					
		A					3447	33 42	32 33	32·16	32·07	3207	32·11	32·22	31·40			
		B																
	7984	C	5				+10	+18	+03	+18	+09	+09	+13	+24	-18			
		A					3007	29·11	28·40	28·12	28·31	28·35	28·43	28·27	27·55			
		B																
	8275	C	6				+17	+18	+06	-10	+09	+13	+21	+05	-27			
		A					25·30	25·16	25·00	24·57	24·55	25·22	25·20	25·38	25·09			
		B																
	8375	C	7				-11	✓	-13	-16	-18	+09	+07	+25	-04			
		A					2205	21·48	22·10	22·20	22·37	22·38	22·32	22·46	22·27			
		B																
	8378	C	8				✓	-20	-01	+05	+17	+15	+06	+15	-05			
		A							19·00	18·58	19·17	19·22	19·47					
		B																
	8010	C	9						+22	+07	+01	-14	-12					
		A							17·00	17·23	17·36	17·45	18·44					
		B																
	7710	C	95						+12	+19	✓	-20	+09					
		A																
		B																
		C																
		A																
		B																
		C																

TOLERANCE BASED ON ± 2% OF SECTION PITCH MEAN PITCH OF BLADE 7934 TO BE WITHIN ± 1% OF 7903

SMM PROPELLERS LIMITED

P.6

A = MEASURED
B = DESIGNED
C = DIFFERENCE IN MINS.

PITCH RECORDS

JOB NO: Z/8395
BLADE NO: 1 (ONE)
DATE OF ISSUE: 2/1/86

LOCAL PITCH ANGLES

Sec'n pitch Design	Actual		Sec.	Rad.	Leading half							Trailing half						Tol 2% mins.
		A								45°25'	42°23'	42°45'	43°13'					
		B		m/m						45·51	42·53	42·46	42·39					
7080	7055	C	3	1215						-26	-30	-01	+34					
		A								38·04	36·08	36·30	36·30					
		B								38·22	36·34	36·34	36·34					
7540	7480	C	4	1620						-18	-26	-04	-04					
		A					34·30	32·59	32·18	31·34	31·47	31·50	31·48	31·53	31·40			
		B					34·37	33·24	32·30	31·58	31·58	31·58	31·58	31·58	31·58			
7938	7871	C	5	2025			-07	-25	-12	-24	-11	-08	-10	-05	-18			
		A					2920	28·39	28·13	28·09	28·06	28·15	28·20	28·20	28·15			
		B					29·50	28·53	28·34	28·22	28·27	28·27	28·22	28·22	28·22			
8241	8172	C	6	2430			-30	-14	-21	-13	-16	-07	-02	-02	-07			
		A					25·23	24·52	25·04	25·08	25·02	25·10	25·24	25·33	24·56			
		B					25·41	25·16	25·13	25·13	25·13	25·13	25·13	25·13	25·13			
8388	8350	C	7	2835			-18	-24	-09	-05	-11	-03	+11	+20	-17			
		A					22·00	22·08	21·66	21·54	22·14	22·17	22·18	22·47	22·40			
		B					22·05	22·08	22·11	22·15	22·20	22·23	22·26	22·31	22·32			
8351	8323	C	8	3240			-05	✓	-15	-21	-06	-06	-08	+16	+08			
		A								18·53	18·32	19·02	19·28	19·55				
		B								18·38	18·51	19·16	19·36	19·59				
8003	7958	C	9	3645						+15	-19	-14	-08	-04				
		A								16·42	17·08	17·23	17·59	18·17				
		B								16·48	17·04	17·36	18·05	18·35				
7680	7618	C	95	3847						-06	+04	-13	-06	-18.				
		A																
		B																
		C																
		A																
		B																
		C																

TOLERANCE BASED ON ± 2% OF SECTION PITCH MEAN PITCH OF BLADE 7853 TO BE WITHIN ± OF 7903

SMM PROPELLERS LIMITED

P.3

A = MEASURED
B = DESIGNED
C = DIFFERENCE IN MINS.

PITCH RECORDS

JOB NO: 2/8395
BLADE NO: 3. (THREE)
DATE OF ISSUE: 2/1/86

LOCAL PITCH ANGLES

Sec'n pitch Design	Actual		Sec.	Rad.	Leading half							Trailing half						Tol 2% mins.
		A								45°24'	42°35'	42°52'	42°16'					
		B																
	7014	C	3							-27	-18	+06	-23					
		A								37·53	36·50	36·42	36·50					
		B																
	7553	C	4							-29	+16	+08	+16					
		A					3447	33 02	32·08	31·35	32·13	32·04	32·12	32·08	31·42			
		B																
	7922	C	5															
		A					29·34	28·38	28·12	28·00	28·23	28·00	28·43	28·49	28·25			
		B																
	8212	C	6				-16	-15	-22	-22	+01	-22	+21	+27	+03			
		A					25·48	25·10	24·51	24·53	25·00	25·32	25·14	25·27	24·47			
		B																
	8356	C	7				+07	-06	-22	-20	-13	+19	+01	+14	-26			
		A					22·14	22·18	22·06	22·10	22·17	22·14	22·18	22·40	22·55			
		B																
	8337	C	8				+09	+10	-05	-05	-03	-09	-08	+09	+23			
		A							18·52	18·48	19·00	19·24	20·10					
		B																
	8010	C	9						+14	-03	-16	-02	+11					
		A							16·55	17·07	17·19	18·26	18·50					
		B																
	7726	C	95						+07	+03	-17	+21	+15					
		A																
		B																
		C																
		A																
		B																
		C																

TOLERANCE BASED ON ± 2% OF SECTION PITCH MEAN PITCH OF BLADE 7891 TO BE WITHIN ± 1% OF 7903

SMM PROPELLERS LIMITED

P.5

A = MEASURED
B = DESIGNED
C = DIFFERENCE OF DESIGNED TO MEASURED

THICKNESS RECORDS

JOB NO: Z8395B
BLADE NO: 1
DATE OF ISSUE: 2/1/86

MILLIMETRES.

	SEC.	R	LEADING HALF	80%	60%	MAX.	40%	20%	TRAILING HALF	TOL
A				198	277½	282	267	183½		
B	3	1215		194	273	277½	263	179½		
C				+4	+4½	+4½	+4	+4		
A				157	223½	229½	220½	154		
B	4	1620		154	220	226	217	151		
C				+3	+3½	+3½	+3½	+3		
A				126½	179½	185½	178	126		
B	5	2025		123½	177½	183	176	123½		
C				+3	+2	+2½	+2	+2½		
A				97½	140	145	139½	98½		
B	6	2430		95	138	142½	137½	96½		
C				+2½	+2	+2½	+2	+2		
A				72	104½	108	103½	74		
B	7	2835		70½	102½	105½	102	72		
C				+1½	+2	+2½	+1½	+2		
A				50½	72	74½	71½	51½		
B	8	3240		48½	70	72	69½	50		
C				+2	+2	+2½	+2	+1½		
A				31	42½	44	42½	32½		
B	9	3645		29	41	42	41	31		
C				+2	+1½	+2	+1½	+1½		
A				23	29	30½	29½	24		
B	95	3848		21½	28	29	28½	22½		
C				+1½	+1	+1½	+1	+1½		
A										
B										
C										
A										
B										
C										

SMM PROPELLERS LIMITED

P.8

A = MEASURED
B = DESIGNED
C = DIFFERENCE IN MINS.

PITCH RECORDS

JOB NO: Z/8395
BLADE NO: 5. (FIVE)
DATE OF ISSUE: 2/1/86

SEC'N PITCH DESIGN	SEC'N PITCH ACTUAL		SEC.	RAD.	LOCAL PITCH ANGLES – LEADING HALF							TRAILING HALF						TOL 2% MINS.
		A								45°25'	42°40'	43°07'	42°24'					
		B																
	7047	C	·3							-26	-13	+21	-15					
		A								37·57	36·32	36·38	37·03					
		B																
	7549	C	·4							-25	-02	+04	+29					
		A					34·58	33·40	32·00	32·06	31·37	31·38	31·58	32·23	31·36			
		B																
	7917	C	·5				+21	+16	-30	-08	-21	-20	✓	+25	-22			
		A					29·33	28·37	28·08	28·12	27·53	28·36	28·40	28·38	28·00			
		B																
	8195	C	·6				-17	-16	-26	-10	-29	+14	+18	+16	-22			
		A					25·25	24·53	24·55	24·58	25·00	25·35	25·01	25·34	24·51			
		B																
	8337	C	·7				-16	-23	-18	-15	-13	+22	-12	+21	-22			
		A					21·45	22·00	21·59	22·03	22·25	22·10	22·33	22·23	22·28			
		B																
	8302	C	·8				-20	-08	-12	-12	+05	-13	+07	-08	-04			
		A							18·53	18·40	19·00	19·32	19·58					
		B																
	8010	C	·9						+15	-11	-16	+16	-01					
		A							16·54	17·20	17·24	17·47	18·52					
		B																
	7695	C	·95						+06	+16	-12	-18	+17					
		A																
		B																
		C																
		A																
		B																
		C																

TOLERANCE BASED ON ± 2% OF SECTION PITCH MEAN PITCH OF BLADE 7881 TO BE WITHIN ± 1% OF 7903

SMM PROPELLERS LIMITED

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A = MEASURED
B = DESIGNED
C = DIFFERENCE OF DESIGNED TO MEASURED

THICKNESS RECORDS

JOB NO: 8395
BLADE NO: 3
DATE OF ISSUE:

	SEC.	R	LEADING HALF	80%	60%	MAX.	40%	20%	TRAILING HALF	TOL
A				198½	276	281½	267½	184		
B	3									
C				+4½	+3	+4	+4½	+4½		
A				158	223½	230	220	154½		
B	4									
C				+4	+3½	+4	+3	+3½		
A				126½	180	186	178½	126½		
B	5									
C				+3	+2½	+3	+2½	+3		
A				97½	140½	145½	139½	98½		
B	6									
C				+2½	+2½	+3	+2	+2		
A				73	104½	108	104	74		
B	7									
C				+2½	+2	+2½	+2	+2		
A				50	72	74	71½	51½		
B	8									
C				+1½	+2	+2	+2	+1½		
A				31½	43	44	42½	32½		
B	9									
C				+2½	+2	+2	+1½	+1½		
A				23	29	30½	29½	24		
B	95									
C				+1½	+1	+1½	+1	+1½		
A										
B										
C										
A										
B										
C										

SMM PROPELLERS LIMITED

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A = MEASURED
B = DESIGNED
C = DIFFERENCE OF DESIGNED TO MEASURED

THICKNESS RECORDS

JOB NO: 8395
BLADE NO: 2
DATE OF ISSUE:

	SEC.	R	LEADING HALF	80%	60%	MAX.	40%	20%	TRAILING HALF	TOL
A				197½	277½	282	267	184		
B	3									
C				+3½	+4½	+4½	+4	+4½		
A				158	223	229½	220½	154		
B	4									
C				+4	+3	+3½	+3½	+3		
A				126	180½	186	178½	126		
B	5									
C				+2½	+3	+3	+2½	+2½		
A				98	140½	145	139½	98½		
B	6									
C				+3	+2½	+2½	+2	+2		
A				73	105	108	104	74		
B	7									
C				+2½	+2½	+2½	+2	+2		
A				50½	72	74½	71½	51½		
B	8									
C				+2	+2	+2½	+2	+1½		
A				31	43	43½	42½	32½		
B	9									
C				+2	+2	+1½	+1½	+1½		
A				23	29	29	29½	23½		
B	95									
C				+1½	+1	✓	+1	+1		
A										
B										
C										
A										
B										
C										

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A = MEASURED
B = DESIGNED
C = DIFFERENCE OF DESIGNED TO MEASURED

THICKNESS RECORDS

JOB NO: [illegible]
BLADE NO: 5
DATE OF ISSUE:

	SEC.	R	LEADING HALF	80%	60%	MAX.	40%	20%	TRAILING HALF	TOL
A	3			196	277	282	267¼	183		
B										
C				+2	+4	+4¼	+4¼	+3¼		
A	4			157	222¼	228¼	220	153		
B										
C				+3	+2¼	+2¼	+3	+2		
A	5			125	179	185	178	125		
B										
C				+1¼	+1¼	+2	+2	+1¼		
A	6			97	139¼	144¼	139	98¼		
B										
C				+2	+1¼	+2	+1¼	+2		
A	7			73	104	107¼	103¼	74		
B										
C				+2¼	+1¼	+2	+1¼	+2		
A	8			50¼	72	74	71	51¼		
B										
C				+2	+2	+2	+1¼	+1¼		
A	9			31	42¼	44	42¼	33		
B										
C				+2	+1½	+2	+1¼	+2		
A	95			23	29¼	30¼	30	24¼		
B										
C				+1¼	+1¼	+1¼	+1¼	+2		
A										
B										
C										
A										
B										
C										

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A = MEASURED
B = DESIGNED
C = DIFFERENCE OF DESIGNED TO MEASURED

THICKNESS RECORDS

JOB NO: 8575
BLADE NO: 4
DATE OF ISSUE:

	SEC.	R	LEADING HALF	80%	60%	MAX.	40%	20%	TRAILING HALF	TOL
A	3			197	276	279¼	267	183¼		
B										
C				+3	+3	+2	+4	+4		
A	4			156	223	228¼	219¼	154¼		
B										
C				+2	+3	+2¼	+2¼	+3¼		
A	5			125¼	179	185¼	177¼	125¼		
B										
C				+2	+1¼	+2¼	+1¼	+2		
A	6			97	139¼	144	139	98¼		
B										
C				+2	+1¼	+1¼	+1¼	+2		
A	7			72¼	105	108	104	74		
B										
C				+2	+2¼	+2¼	+2	+2		
A	8			50	71	72¼	70¼	51¼		
B										
C				+1¼	+1	+¼	+1	+1¼		
A	9			30¼	41¼	42¼	42¼	32		
B										
C				+1¼	+¼	+½	+1¼	+1		
A	95			23	29¼	31	29¼	23¼		
B										
C				+1¼	+1¼	+2	+1	+1		
A										
B										
C										
A										
B										
C										

BMM PROPELLERS LIMITED

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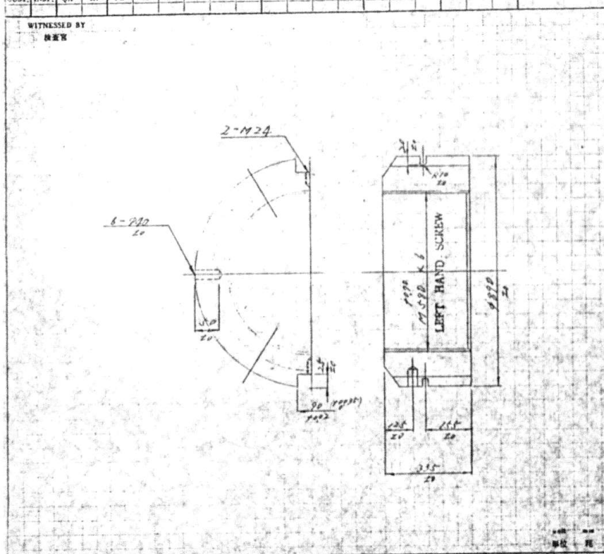
INSPECTION REPORT 検査成績表

QUALITY ASSURANCE DEPT.
KOBE STEEL, LTD. TAKASAGO PLANT.
株式会社 神戸製鋼所高砂事業所品質保証部

DATE INSPECTED 検査年月日: 11-APR-86

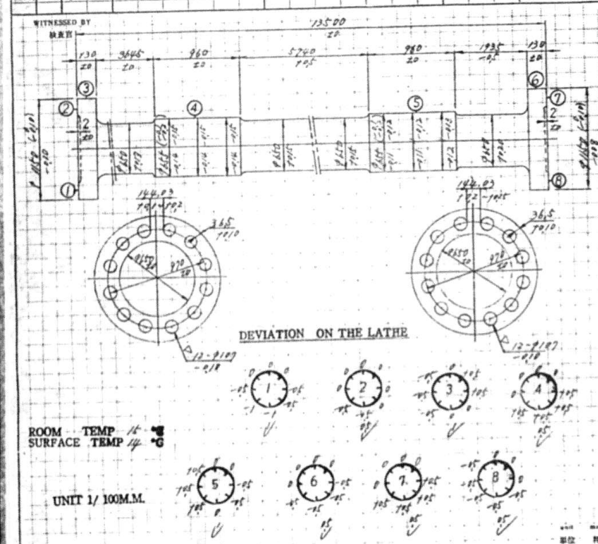


CUSTOMER 御注文主	Mitsui Engineering & Shipbuilding Co., Ltd. Tamano Works
CUSTOMER No. 御注文主番号	
TYPE 型式	NUT FOR
ARTICLE 品名	Propeller Shaft
HULL No. 船番	1325
ENG. No. 機番	
DWG. No. 図番	5124203
PRT. No. 符号	
MATERIAL 材質	SF45A
QUANTITY 数量	1
M. I. No. 材料識別番号	C57762-9
KSL. O. No. 製作番号	85-32490-0
INSPECTED BY / CHECKED BY / REVIEWED BY	[signatures]

INSPECTION REPORT 検査成績表

QUALITY ASSURANCE DEPT.
KOBE STEEL, LTD. TAKASAGO PLANT.
株式会社 神戸製鋼所高砂事業所品質保証部

DATE INSPECTED 検査年月日: 9-APR-86

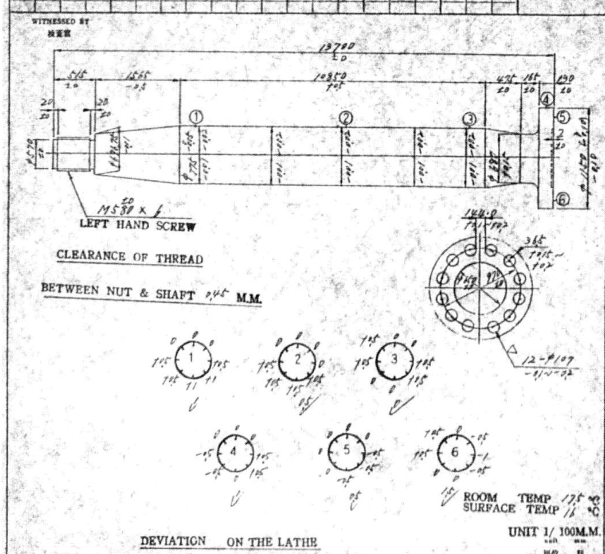


CUSTOMER 御注文主	Mitsui Engineering & Shipbuilding Co., Ltd. Tamano Works
CUSTOMER No. 御注文主番号	J40532
TYPE 型式	NO.2
ARTICLE 品名	Intermediate Shaft
HULL No. 船番	1325
ENG. No. 機番	
DWG. No. 図番	5124201
PRT. No. 符号	
MATERIAL 材質	SF ABS C-2
QUANTITY 数量	1
M. I. No. 材料識別番号	T60025-A-1
KSL. O. No. 製作番号	85-32491-0
INSPECTED BY / CHECKED BY / REVIEWED BY	[signatures]

INSPECTION REPORT 検査成績表

QUALITY ASSURANCE DEPT.
KOBE STEEL, LTD. TAKASAGO PLANT.
株式会社 神戸製鋼所高砂事業所品質保証部

DATE INSPECTED 検査年月日: 11-APR-86

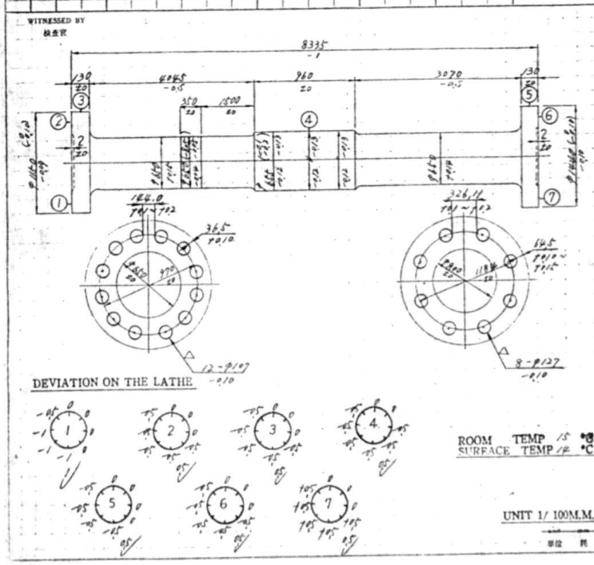


CUSTOMER 御注文主	Mitsui Engineering & Shipbuilding Co., Ltd. Tamano Works
CUSTOMER No. 御注文主番号	J40533
TYPE 型式	
ARTICLE 品名	Propeller Shaft
HULL No. 船番	1325
ENG. No. 機番	
DWG. No. 図番	5124203
PRT. No. 符号	
MATERIAL 材質	SF ABS C-2
QUANTITY 数量	1
M. I. No. 材料識別番号	T60021-A-1
KSL. O. No. 製作番号	85-32490-0
INSPECTED BY / CHECKED BY / REVIEWED BY	[signatures]

INSPECTION REPORT 検査成績表

QUALITY ASSURANCE DEPT.
KOBE STEEL, LTD. TAKASAGO PLANT.
株式会社 神戸製鋼所高砂事業所品質保証部

DATE INSPECTED 検査年月日: 9-APR-86



CUSTOMER 御注文主	Mitsui Engineering & Shipbuilding Co., Ltd. Tamano Works
CUSTOMER No. 御注文主番号	J40532
TYPE 型式	NO.1
ARTICLE 品名	Intermediate Shaft
HULL No. 船番	1325
ENG. No. 機番	
DWG. No. 図番	5124201
PRT. No. 符号	
MATERIAL 材質	SF ABS C-2
QUANTITY 数量	1
M. I. No. 材料識別番号	T60025-B-1
KSL. O. No. 製作番号	85-32491-0
INSPECTED BY / CHECKED BY / REVIEWED BY	[signatures]

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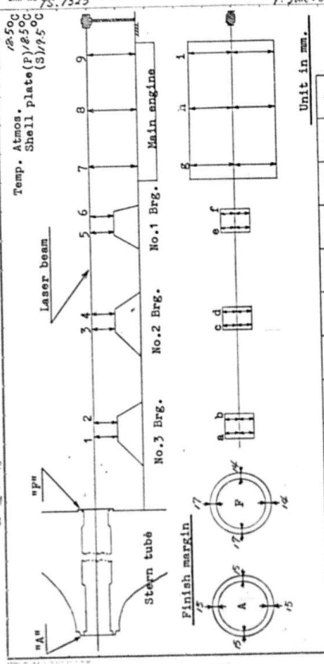
検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	Shafting	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	Center alignment by sight	造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	"TILLIE LYKES" 船主 OWNER LYKES	
工事番号 SHIP NO.	TS.1325 計測場所 PLACE On board 計測月日 MEASURED DATE 9. June. '86	M. Fujisaki, K. Tomii, T. Katsumura, M. Okawa

Temp. Atmos. 18.5°C
Shell plate (P) 18.5°C
(S) 19.5°C



Unit in mm.

Position	1	2	3	4	5	6	7	8	9
Standard	775						1565		
Actual	782	779	787	788	780	781	1564	1566	1565

Position		a	b	c	d	e	f	g	h	i
Standard		565						1465		
Actual	P	567	565	568	568	570	569	1470	1472	1469
	S	564	564	558	561	560	563	1453	1455	1464

配布先 OW 2, ABS 1, 船・運 1, 船・機 2, 船設・救 1, 船設・機 1, 計 8

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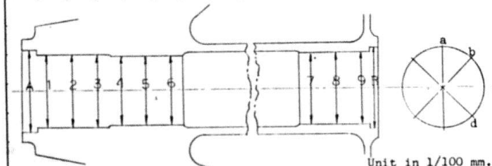
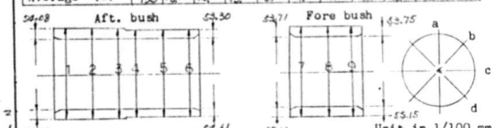
検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	Stern tube & bush	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	Inside & outside dia.	造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	TILLIE LYKES 船主 OWNER LYKES BROS.	M. Fujisaki
工事番号 SHIP NO.	1325 計測場所 PLACE In shop & on berth 計測月日 MEASURED DATE 17-June-'86	T. Katsumura



Unit in 1/100 mm.

Standard / Position / Direction	1010φ	885φ			884.5φ			885φ			1010φ
	A	1	2	3	4	5	6	7	8	9	B
a	+35	+6	+5	+4	-3	-4.5	-5	+37.5	+38.5	+41	+30
b	+35	+6	+5	+3.5	-2.5	-4.5	-5	+31	+36.5	+31	+30
c	+35	+6.5	+4	+3	-3.5	-4	-5	+32.5	+33	+34	+30
d	+35	+5	+3.5	+4	-2.5	-4.5	-4.5	+32	+33.5	+34.5	+30
Average (I)	+35	+5.875	+4.375	+3.625	-2.875	-4.375	-4.875	+33.25	+33.875	+35.125	+30



Unit in 1/100 mm.

Standard / Position / Direction	885φ			884.5φ			885φ		
	1	2	3	4	5	6	7	8	9
a	+12	+10	+8	+2	-0.5	-2	+37.5	+39.5	+42
b	+12	+9.5	+7.5	+2	-0.5	-2	+36.5	+38	+41.5
c	+12.5	+9.5	+7.5	+2	-0.5	-2	+37.5	+39.5	+42
d	+11.5	+9	+7	+2	-0.5	-2	+37.5	+39.5	+42
Average (II)	+12	+9.5	+7.5	+2	-0.5	-2	+37.25	+39.125	+41.875
(II) - (I)	6.125	5.125	3.875	4.875	3.875	2.875	4	5.25	6.75

配布先 OW 2, ABS 1, 船・運 1, 船・艤 2, 三菱パテ 1, 計 7

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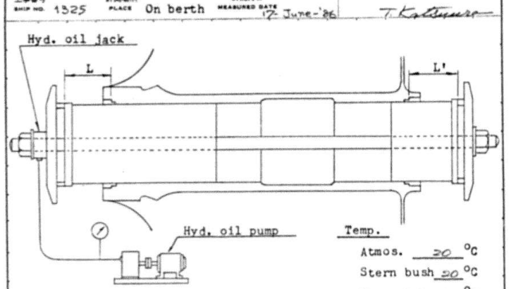
検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	Stern tube bearing (fore & aft.)	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	Fitting	造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	TILLIE LYKES 船主 OWNER LYKES BROS.	M. Fujisaki
工事番号 SHIP NO.	1325 計測場所 PLACE On berth 計測月日 MEASURED DATE 17-June-'86	T. Katsumura



Temp.
Atmos. 20 °C
Stern bush 20 °C
Stern tube 20 °C

Aft. bush

L mm.	Press. Kg/cm^2	Force Ton
500	58	20.53
400	80	28.32
300	115	40.71
250	130	46.02
200	145	51.33
150	160	56.64
100	175	61.95
50	180	63.72
30	180	63.72
20	180	63.72
10	180	63.72
0	185	65.49

Fore bush

L' mm.	Press. Kg/cm^2	Force Ton
150	85	30.09
100	95	33.63
50	100	35.40
30	105	37.17
20	105	37.17
10	105	37.17
0	110	38.94

配布先 OW 2, ABS 1, 船・運 1, 船・艤 2, 三菱パテ 1, 計 7

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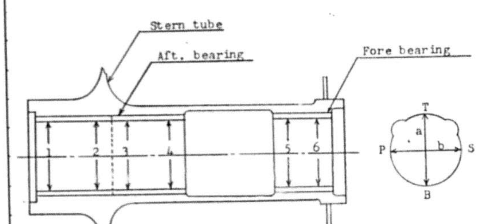
検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	Stern Tube Bearing	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	Inside Dia. (After fitting)	造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	TILLIE LYKES 船主 OWNER LYKES BROS	M. Fujisaki, K. Tomii
工事番号 SHIP NO.	1325 計測場所 PLACE On berth 計測月日 MEASURED DATE 20-June-'86	T. Katsumura, M. Okawa



Unit in 1/100 mm.

Item / Direction / Position / Standard		775φ					
		1	2	3	4	5	6
In. Dia.	a	+137	+132	+142	+150	+139	+138
	b	+131	+129	+134	+143	+135	+134

配布先 OW 2, ABS 1, 船・運 1, 船・艤 2, 計 6

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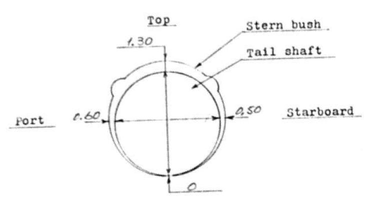
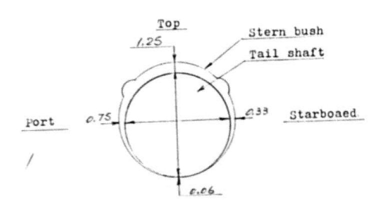
検査成績表
INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	Stern bush & tail shaft	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT
検査事項 ITEM	Clearance	
船名 NAME OF SHIP	TILLIE LYKES 船主 OWNER LYKES BROS	M. Fujisaki / T. Katsumura / M. Okawa
工事番号 SHIP NO.	1325 計測場所 PLACE On berth 計測月日 MEASURED DATE 20-June-'86	





Unit in mm.

配布先
OW 2
ABS 1
船主・監 1
船主・艤 2
計 6

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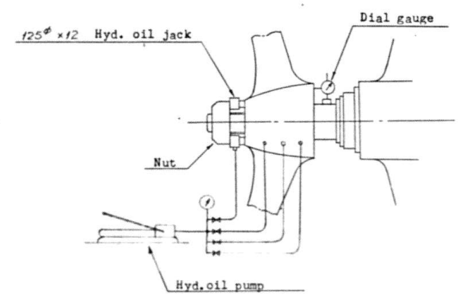
検査成績表
INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	Propeller	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT
検査事項 ITEM	Fitting	
船名 NAME OF SHIP	TILLIE LYKES 船主 OWNER LYKES BROS	M. Fujisaki / T. Katsumura
工事番号 SHIP NO.	1825 計測場所 PLACE On berth 計測月日 MEASURED DATE 21-June-'86	



Fitting length 18.75 mm.

Fitting press. 620 Kg/cm2

Fitting force 912.56 Ton

配布先
OW 2
ABS 1
船主・監 1
船主・艤 2
計 6

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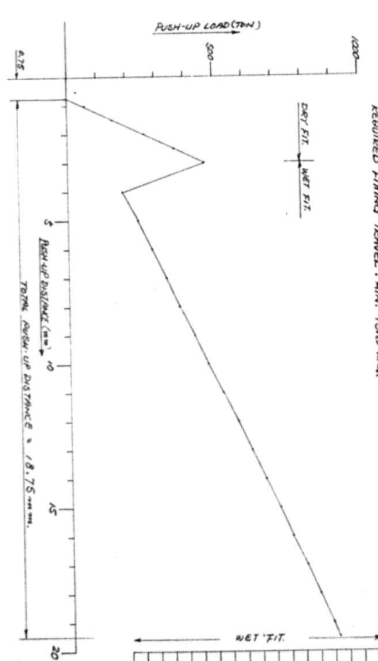
21-June-'86

TS1325 PROPELLER FITTING

OIL JACK : 125$^\phi$ x 12 PIECES
SHAFT DIA : 775$^\phi$
TAPER : 1/20 ON DIA.
TEMP. : ATMOS 21°C
SHAFT 22°C
BOSS 22°C

REQUIRED FITTING TRAVEL : MIN. 18.25 mm.



PUSH-UP DISTANCE (mm)	PUSH-UP PRESS. (Kg/cm2)	PUSH-UP FORCE (TON)
0.5	20	29.44
1.0	40	58.88
1.5	105	154.55
2.0	180	264.94
2.5	250	367.97
3.0	320	471.00
4.0	128	188.40
5.0	163	239.92
6.0	195	287.02
7.0	227	334.12
8.0	258	379.74
9.0	292	429.79
10.0	323	475.42
11.0	356	523.99
12.0	390	574.03
13.0	422	621.13
14.0	454	668.23
15.0	487	716.80
16.0	515	758.02
17.0	547	805.12
18.0	577	849.27
19.0	607	893.43
19.5	620	912.56

DRY FIT. (0.5–3.0) / WET FIT. (4.0–19.5)

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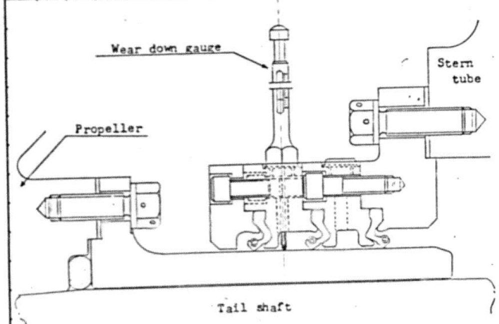
検査成績表
INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	STERN TUBE BEARING.	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT
検査事項 ITEM	WEAR DOWN GAUGE READING.	
船名 NAME OF SHIP	"TILLIE LYKES" 船主 OWNER LYKES BROS.	M. Fujisaki
工事番号 SHIP NO.	TS1325 計測場所 PLACE DRY DOCK 計測月日 MEASURED DATE 17-Oct-86	M. Okawa



Remark : Location of propeller blade for reading of wear down gauge : "A" BLADE TOP POSITION.

TOP	BOTTOM
75.65	75.50

Unit in MM

配布先
ABS 1
OW 2
船主・監(機) 1
船主・艤 2
計 6

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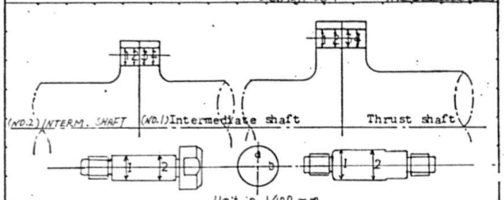
検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME: Coupling bolt & bolt hole for shafting		三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.LTD.TAMANO SHIP YARD
検査事項 ITEM: Dimension		造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP: TILLIE LYKES	船主 OWNER: LYKES BROS.	M. Fujisaki / Y. Inui
工事番号 SHIP NO.: 1325 計測場所 PLACE: In shop	計測月日 MEASURED DATE: 26.Aug.'86	T. Katsumura



Unit in 1/100 mm.

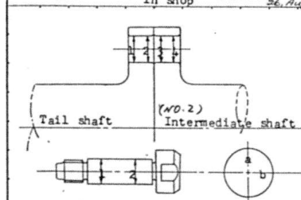
No.	Direction	Mid. coupling 110φ Bolt 1	Bolt 2	Bolt hole 1	Bolt hole 2	Bolt hole 3	Bolt hole 4
1	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
2	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
3	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
4	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
5	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
6	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
7	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
8	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
9	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
10	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
11	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
12	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2

No.	Direction	Fore coupling 130φ Bolt 1	Bolt 2	Bolt hole 1	Bolt hole 2	Bolt hole 3	Bolt hole 4
1	a	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
	b	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
2	a	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
	b	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
3	a	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
	b	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
4	a	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
	b	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
5	a	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
	b	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
6	a	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
	b	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
7	a	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
	b	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
8	a	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
	b	+2.5	+2.5	+1.5	+1.5	+1.5	+1.5
9	a						
	b						
10	a						
	b						
11	a						
	b						
12	a						
	b						

配布先 OW 2, ABS 1, Σ 6

検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME: Coupling bolt & bolt hole for shafting		三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.LTD.TAMANO SHIP YARD
検査事項 ITEM: Dimension		造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP: TILLIE LYKES	船主 OWNER: LYKES BROS	M. Fujisaki / Y. Inui
工事番号 SHIP NO.: 1325 計測場所 PLACE: In shop	計測月日 MEASURED DATE: 26.Aug.'86	T. Katsumura



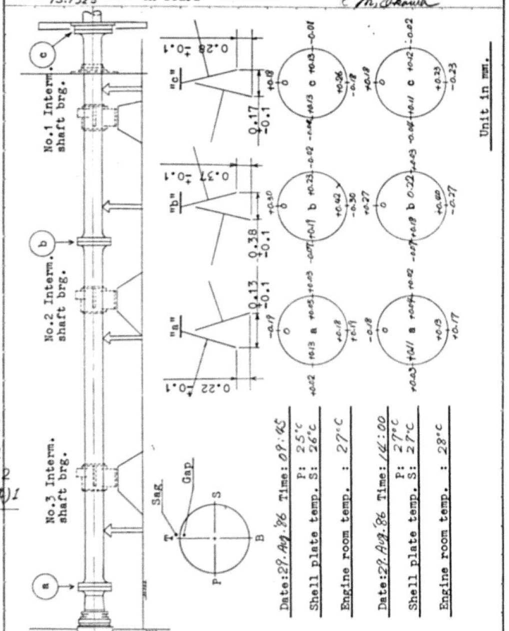
Unit in 1/100 mm.

No.	Direction	Aft. coupling 110φ Bolt 1	Bolt 2	Bolt hole 1	Bolt hole 2	Bolt hole 3	Bolt hole 4
1	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
2	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
3	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
4	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
5	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
6	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
7	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
8	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
9	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
10	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
11	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2
12	a	+3	+3	+2	+2	+2	+2
	b	+3	+3	+2	+2	+2	+2

配布先 OW 2, ABS 1, Σ 6

検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME: Shafting		三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.LTD.TAMANO SHIP YARD
検査事項 ITEM: Center alignment		造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP: TILLIE LYKES	船主 OWNER: LYKES	M. Fujisaki / Y. Inui
工事番号 SHIP NO.: TS.1325 計測場所 PLACE: On board	計測月日 MEASURED DATE:	M. Okawa



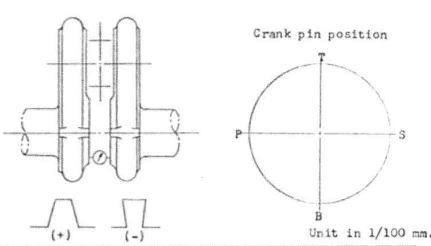
Date: 29.Aug.'86 Time: 09:05
Shell plate temp. P: 25°C S: 26°C
Engine room temp. : 27°C

Date: 29.Aug.'86 Time: 14:00
Shell plate temp. P: 27°C S: 27°C
Engine room temp. : 28°C

配布先 計 7

検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME: Main engine		三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.LTD.TAMANO SHIP YARD
検査事項 ITEM: Deflection		造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP: TILLIE LYKES	船主 OWNER: LYKES	M. Fujisaki / Y. Inui
工事番号 SHIP NO.: TS.1325 計測場所 PLACE: On board	計測月日 MEASURED DATE: 29.Aug.'86	M. Okawa



Unit in 1/100 mm.

Condition	Position of crank pin \ CYL. No.	1	2	3	4	5	6	7	8	9
After tightening the Hold down bolts & Side stoppers; Df 10.5 Feet, Dm 13.5 ", Da 18.5 "; 29.Aug.'86	B	0	0	0	0	0	0	0	0	0
	P	-18	0	-1	+1.5	+2	+9	+2	-6	-9
	T	-29	+2	+10	+6.5	+10	+15	+8.5	-6.5	-4
	S	-20	0	+10	+3	+4	+3	-3	-8	+3
After tightening the Shaft coupling bolt; Df 11.6 Feet, Dm 13.6 ", Da 17.1 "; 10.Sep.'86	B	0	0	0	0	0	0	0	0	0
	P	-17	-4	-1	-1	+1	+8	+1	-10	-11
	T	-28	0	+9	+6	+7	+16	+3	-10	-5
	S	-11	-4	+7	+2	+1	+2	-5	-3	-2
After Sea Travel Hot condition; Df 12 Feet, Dm 15. ", Da 17 "; 23.Oct.'86	B	0	0	0	0	0	0	0	0	0
	P	-11	-3	-4	-5	-2	-2	-5	-9	-13
	T	-23	+1	0	-3	+1	-8	-6	-7	-14
	S	-11	-3	-3	-3	-4	-6	-10	-11	-6

配布先 OW. 2, ABS. 1, 計 6

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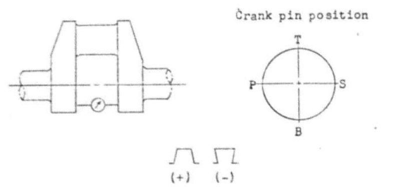
検査成績表 INSPECTION RESULT

発行 DATE	頁 PAGE
品名 NAME	Diesel generator engine
検査事項 ITEM	Deflection
船名 NAME OF SHIP	TILLI LYKES — 船主 OWNER LYKES
工事番号 SHIP NO.	TS.1325 — 計測場所 PLACE On board — 計測月日 MEASURED DATE 31. Jul. 86

三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT

M. Fujisaki / Y. F. Imai / M. Ikawa



Unit in 1/100 mm.

COLD CONDITION \ CYL. NO POSITION		1	2	3	4	5	6
NO.1 D/G	B	0	0	0	0	0	0
	S	0	+0.5	0	0	+0.5	+1.0
	T	+1.0	+1.5	+0.5	0	+1.0	+2.0
	P	+1.0	+1.0	+0.5	0	+0.5	+1.5
NO.2 D/G	B	0	0	0	0	0	0
	S	0	0	0	0	+1.0	+1.0
	T	0	0	+1.0	+0.5	+1.0	+2.0
	P	0	0	0	0	+0.5	+0.5
NO.3 D/G	B	0	0	0	0	0	0
	P	0	0	0	+0.5	0	+0.5
	T	0	0	0	+0.5	+1.0	+1.0
	S	0	0	+0.5	+1.0	+1.0	+0.5

Remark ; S & P show side of Ship

配布先 OW. 2 ABS. 1 船工-速 1 船工-機 2 計 6

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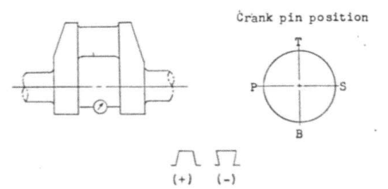
検査成績表 INSPECTION RESULT

発行 DATE	頁 PAGE
品名 NAME	Diesel generator engine
検査事項 ITEM	Deflection (Hot condition)
船名 NAME OF SHIP	TILLIE LYKES — 船主 OWNER LYKES
工事番号 SHIP NO.	TS.1325 — 計測場所 PLACE On board — 計測月日 MEASURED DATE 10. Sep. 86

三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT

M. Fujisaki / Y. F. Imai / M. Ikawa



Unit in 1/100 mm.

HOT CONDITION \ CYL. NO POSITION		1	2	3	4	5	6
NO.1 D/G (Temp. 61°C)	B	0	0	0	0	0	0
	S	+1	0	-1	-1	0	-1
	T	+1	-1.5	-1	-1	-1.5	-2
	P	+1	-1	0	0	-1	0
NO.2 D/G (Temp. 62°C)	B	0	0	0	0	0	0
	S	0	-1	-1	-1	-0.5	-1
	T	-1	-3	-2	-3	-4	-3
	P	0	-2	-1	-2	-3	-2
NO.3 D/G (Temp. 62°C)	B	0	0	0	0	0	0
	P	0	0	0	0	0	0
	T	-2	-2	-1	-1	-2	0
	S	-1.5	-1	0	0	-1	+1

Remark ; S & P show side of Ship

配布先 ABS. 1 OW. 2 船工-速(組) 1 船工-機(機) 2 計 6

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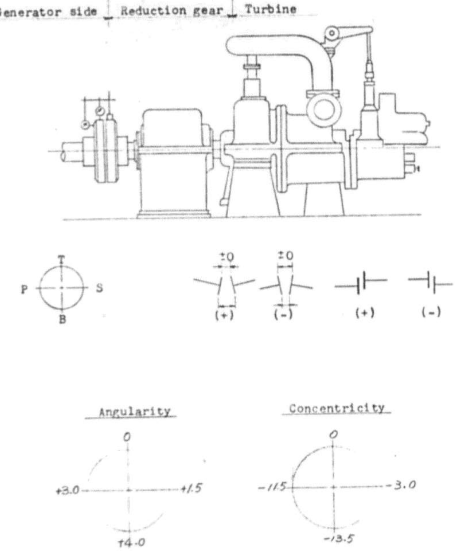
検査成績表 INSPECTION RESULT

発行 DATE	頁 PAGE
品名 NAME	Turbo generator
検査事項 ITEM	Shaft center alignment
船名 NAME OF SHIP	TILLIE LYKES — 船主 OWNER LYKES
工事番号 SHIP NO.	TS.1325 — 計測場所 PLACE On board — 計測月日 MEASURED DATE 29. Aug. 86

三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT

M. Fujisaki / Y. F. Imai / M. Ikawa

Generator side | Reduction gear | Turbine



Unit in 1/100 mm.

配布先 OW. 2 ABS. 1 船工-速(組) 1 船工-機(機) 2 設計-機(機) 1 計 7

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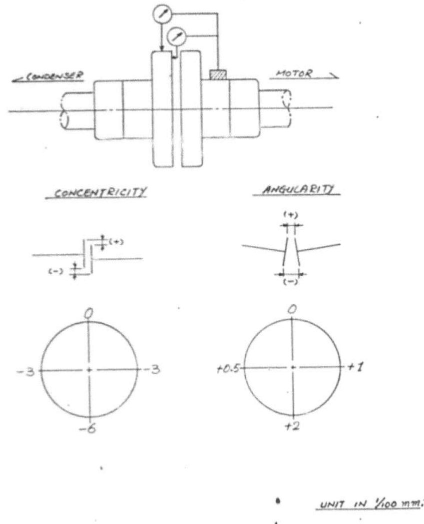
検査成績表 INSPECTION RESULT

発行 DATE	頁 PAGE
品名 NAME	SYNCHRONOUS CONDENSER
検査事項 ITEM	CENTER ALIGNMENT
船名 NAME OF SHIP	TILLIE LYKES — 船主 OWNER LYKES
工事番号 SHIP NO.	TS.1325 — 計測場所 PLACE ON BOARD — 計測月日 MEASURED DATE 1. Aug. 86

三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT

M. Fujisaki / Y. F. Imai / M. Ikawa



UNIT IN 1/100 mm.

配布先 OW. 2 船工-速(組) 1 設計-機(機) 1 船工-機 2 計 6

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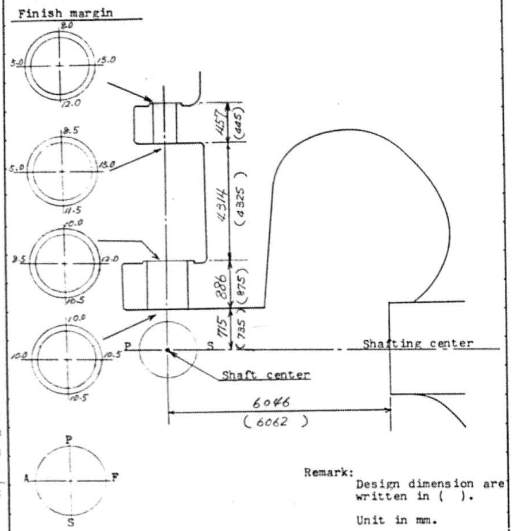
検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	SHAFTING & GUDGEON	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	CENTER ALIGNMENT & DIMENSION	造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	"TILLIE LYKES" 船主 OWNER LYKES	M. Fujisaki, ? Imai
工事番号 SHIP NO.	TS. 1325 計測場所 PLACE On Berth 計測月日 MEASURED DATE 9-June-'86	T. Katsuura, M. Okawa

Finish margin



Remark: Design dimension are written in ( ).

Unit in mm.

配布先 BW 2, ABS 1, 船工・造 1, 船工・艤 2, 船設・設 1, 船設・構 1, 計 8

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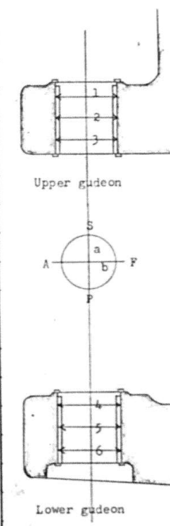
検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	Gudeon and bearing bush	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	Out. and inside dia.	造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	TILLIE LYKES 船主 OWNER LYKES BROS.	M. Fujisaki
工事番号 SHIP NO.	1325 計測場所 PLACE In shop 計測月日 MEASURED DATE 16-June-'86	T. Katsuura



Unit in 1/100 mm

Item		Standard 415φ Position 1	2	3
Gudeon in. dia.	a	+8.5	+9.5	+9.5
	b	+8.5	+9.5	+9.5
Bush out. dia.	a	+19.5	+19.5	+19.5
	b	+19.5	+19.5	+19.5

Unit in 1/100 mm

Item		Standard 785φ Position 4	5	6
Gudeon in. dia.	a	+6	+2.5	+1.5
	b	+6	+2.5	+2.5
Bush out. dia.	a	+32	+28	+27
	b	+32	+28	+27

配布先 BW 2, ABS 1, 船工・建 1, 船工・艤 2, 三造リ 1, 船設・構 1, 計 8

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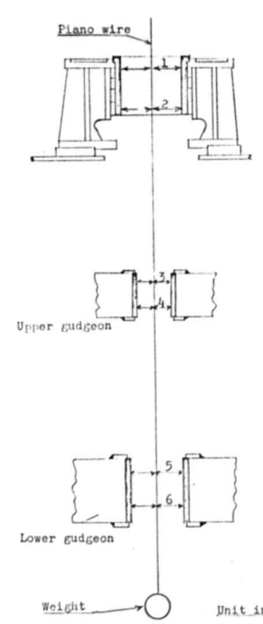
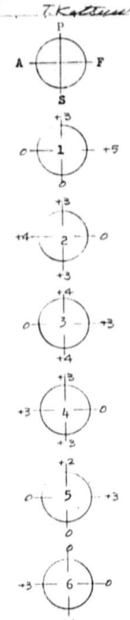
検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	Rudder center	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	Alignment	造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	TILLIE LYKES 船主 OWNER LYKES BROS.	M. Fujisaki
工事番号 SHIP NO.	1325 計測場所 PLACE ON BERTH 計測月日 MEASURED DATE 18-June-'86	T. Katsuura





Unit in 1/100 mm.

配布先 BW 2, ABS 1, 船工・建 1, 船工・艤 2, 船設・構 1, 計 7

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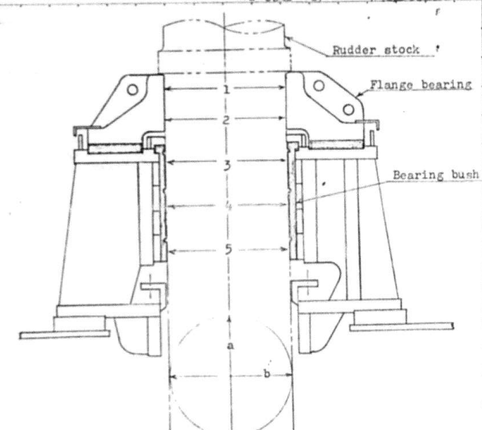
検査成績表 INSPECTION RESULT

発行 DATE		頁 PAGE
品名 NAME	Rudder head bearing	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	Measuring	造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	TILLIE LYKES 船主 OWNER LYKES BROS.	M. Fujisaki, ? Imai
工事番号 SHIP NO.	1325 計測場所 PLACE In shop 計測月日 MEASURED DATE 12-June-'86	T. Katsuura



Unit in 1/100 mm.

Item	Position	1		2		3		4		5	
	Direction	a	b	a	b	a	b	a	b	a	b
	Standard	660φ									
Rudder head bearing		+11	+11	+12	+12	+37	+36.5	+37	+36.5	+37	+36.5
Rudder stock		+7	+7	+7	+7	+7	+7	+7	+7	+7	+7

Remarks : Position 1 & 2 of flange bearing have been measured with 0.1 mm sim .

配布先 BW 2, 船工・建 1, 船工・艤 2, 三造リ 1, 計 6

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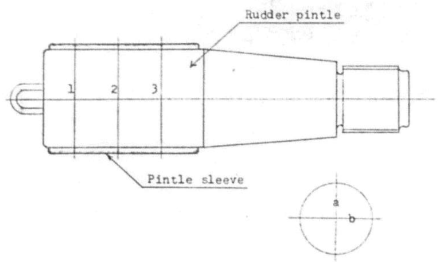
検査成績表
INSPECTION RESULT

品名 NAME	Rudder pintle and sleeve	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT
検査事項 ITEM	Measuring	
船名 NAME OF SHIP	TILLIE LYKES — 船主 OWNER: LYKES BROS.	
工事番号 SHIP NO.	1325 — 計測場所 PLACE: In shop — 計測月日 MEASURED DATE: 12-June-'86	T. Katsumura



Unit in 1/100 mm

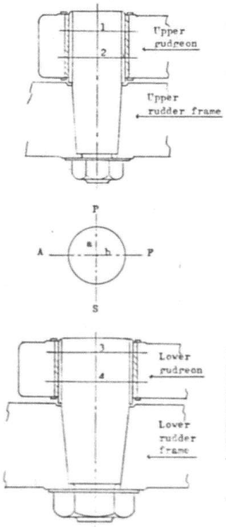
Item		Upper pintle 385ϕ 1	2	3	Lower pintle 685ϕ 1	2	3
Pintle out dia.	a	+0.5	+0.5	0	0	-1	-1
	b	+0.5	+0.5	0	0	-1	-1
Sleeve in dia.	a	-33	-32.5	-33	-67	-68	-69
	b	-33	-32.5	-33	-67	-68	-69
Standard		365ϕ			725ϕ		
Sleeve out dia.	a	-3	-2.5	-3	-5	-3	-5
	b	-3	-2.5	-3	-5	-3	-5

配布先 OW 2, ABS 1, 船設 1, 船試 2, 三造 1, 総技 1, 計 8

P.38

検査成績表
INSPECTION RESULT

品名 NAME	Rudder pintle & Bearing bush	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT
検査事項 ITEM	Measuring	
船名 NAME OF SHIP	TILLIE LYKES — 船主 OWNER: LYKES BROS.	
工事番号 SHIP NO.	1325 — 計測場所 PLACE: In shop & on berth — 計測月日 MEASURED DATE: 12-June-'86, 17-June-'86	T. Katsumura



Unit in 1/100mm

Position		Gudreon bush In. dia. (365ϕ)	Pintle Out. dia.
1	a	+152.5	-3
	b	+149.5	-3
2	a	+160	-3
	b	+156.5	-3

Unit in 1/100mm

Position		Gudreon bush In. dia. (725ϕ)	Pintle Out. dia.
3	a	+252	-5
	b	+256	-5
4	a	+261	-5
	b	+266	-5

配布先 OW 2, ABS 1, 船設 1, 船試 2, 総技 1, 計 7

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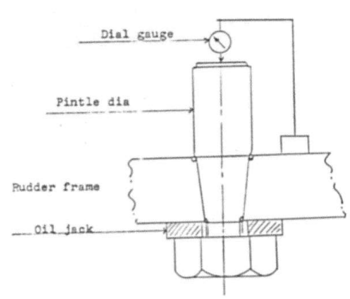
検査成績表
INSPECTION RESULT

品名 NAME	Rudder Pintle	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT
検査事項 ITEM	Fitting	
船名 NAME OF SHIP	TILLIE LYKES — 船主 OWNER: LYKES BROS.	
工事番号 SHIP NO.	1325 — 計測場所 PLACE: AT SHOP — 計測月日 MEASURED DATE: 13-June-'86	T. Katsumura



Item	Pintle dia (mm)	Taper on dia	Fitting force (TON)	Fitting length (mm)
Upper Pintle	365ϕ	1/2	70.7	0.38
Lower Pintle	725ϕ	1/2	141.3	0.45

配布先 OW 2, ABS 1, 船設 1, 船試 2, 三造 1, 総技 1, 計 8

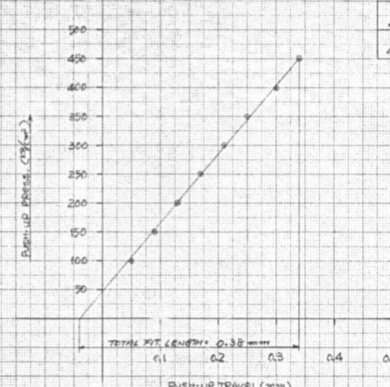
P.40

A481C

TS1325 UPPER PINTLE PUSH-UP CURVE — 13-June-'86

100ϕ × 2 OIL JACK
TEMP.
ATMOS. 24°C
PINTLE 21°C
RUDDER FRAME 21°C

PUSH-UP PRESS. (kg/cm²)	PUSH-UP FORCE (TON)	PUSH-UP TRAVEL (mm)
100	15.7	0.05
150	23.5	0.09
200	31.4	0.13
250	39.3	0.17
300	47.1	0.21
350	55.0	0.25
400	62.8	0.30
450	70.7	0.34



JIS A4 SIZE (250% × 180%) star

P.41

A461C

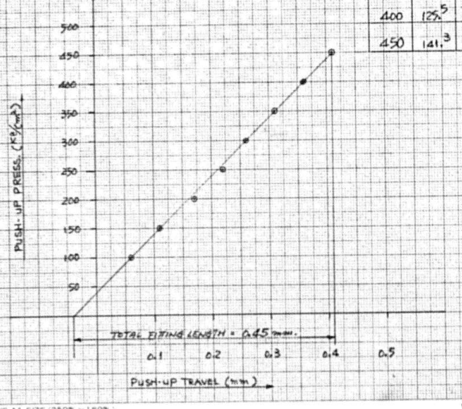
一 月 日 16-June-'86

TS1325 LOWER PINTLE PUSH-UP CURVE

100$^{\phi}$ × 4 OIL JACK

TEMP
ATOMO. 26°C
PINTLE 21°C
RUDDER FRAME 21°C

PUSH-UP PRESS. (kg/cm²)	PUSH-UP FORCE (TON)	PUSH-UP TRAVEL (mm)
100	31.4	0.06
150	47.1	0.11
200	62.8	0.17
250	78.5	0.22
300	94.2	0.26
350	109.9	0.31
400	125.5	0.36
450	141.3	0.41



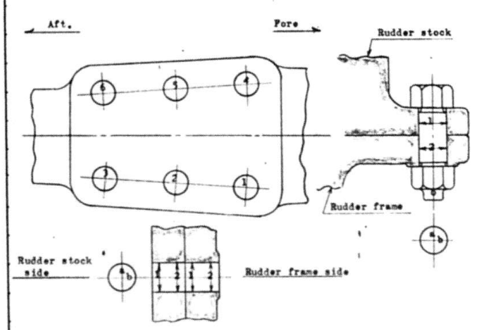
JIS A4 SIZE (250% × 180%) ★star

P.42

検査成績表
INSPECTION RESULT

発行 DATE　　頁 PAGE

品名 NAME	RUDDER COUPLING BOLT		三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	Measuring		造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	TILLIE LYKES	船主 OWNER LYKES BROS.	M. Fujisaki / Y. Inui / T. Katsuura
工事番号 SHIP NO. 1325	計測場所 PLACE In shop	計測月日 MEASURED DATE 20-June-'86	



Unit in 1/100 mm

Standard / Bolt No. / Position / Kind		1		2		3		4		5		6	
Standard		170$^{\phi}$											
Position		1	2	1	2	1	2	1	2	1	2	1	2
Coupling bolt	a	+3.8	+3.8	+4	+4	+4	+4	+4	+4	+4.5	+4.5	+3.8	+3.8
	b	+3.8	+3.8	+4	+4	+4	+4	+4	+4	+4.5	+4.5	+3.8	+3.8
Rudder stock	a	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3
	b	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3
Rudder frame	a	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3
	b	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3

配布先
OW 2
ABS 1
船工·運 1
船工·艤 2
三進バう 1
船設·構 1
Σ 8

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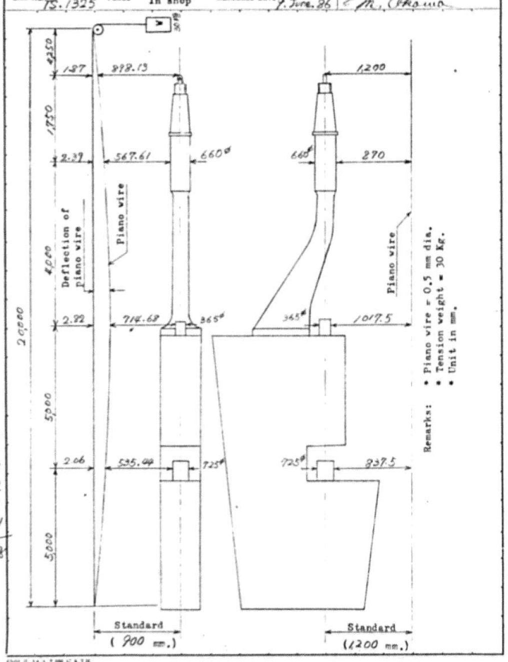
検査成績表
INSPECTION RESULT

発行 DATE　　頁 PAGE

品名 NAME	RUDDER & STOCK		三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	Center alignment		造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	TILLIE LYKES	船主 OWNER LYKES	M. Fujisaki / Y. Inui / T. Katsuura / M. Okamo
工事番号 SHIP NO. TS.1325	計測場所 PLACE In shop	計測月日 MEASURED DATE 9.June.'86	



Remarks:
* Piano wire = 0.5 mm dia.
* Tension weight = 30 Kg.
* Unit in mm.

配布先
OW 2
ABS 1
船工·運 1
船工·艤 2
メーテ 1
船設·構 1
計 8

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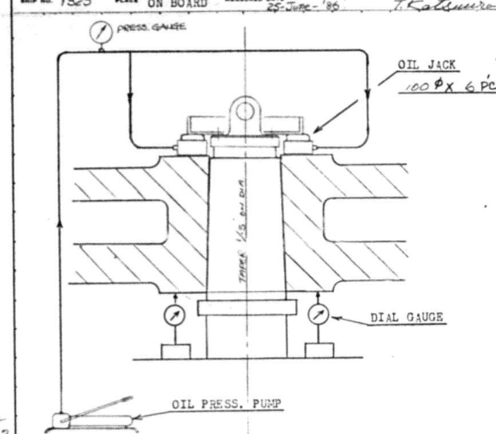
検査成績表
INSPECTION RESULT

発行 DATE　　頁 PAGE

品名 NAME	STEERING GEAR		三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD.TAMANO SHIP YARD
検査事項 ITEM	TILLER FITTING		造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	TILLIE LYKES	船主 OWNER LYKES BROS.	M. Fujisaki / Y. Inui / T. Katsuura
工事番号 SHIP NO. 1325	計測場所 PLACE ON BOARD	計測月日 MEASURED DATE 25-June-'86	



PRESSURE 160 Kg/cm2

FORCE 75.36 TONS

FITTING LENGTH 0.55 MM

配布先
OW 2
ABS 1
船工·運 1
船工·艤 2
船設·構 1
Σ 7

P.45

A4610

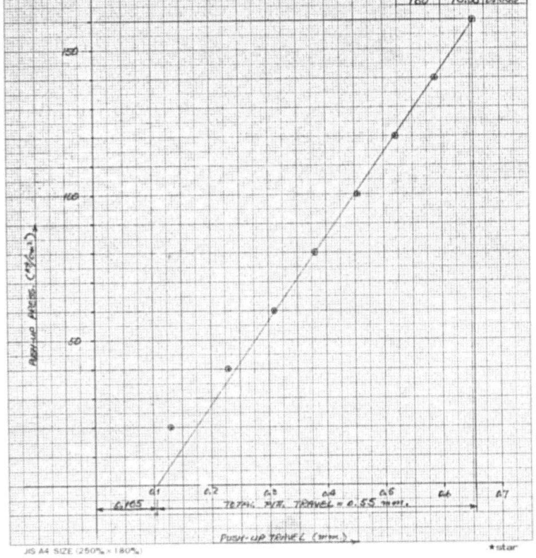
TS1325 TILLER PUSH-UP CURVE

25-June-86

OIL JACK 160$^\phi$ × 6 PIECES

TEMP. ATMOS. 21 °C
STOCK 21 °C
TILLER 21 °C

PUSH-UP PRESS. (kg/cm²)	PUSH-UP FORCE (TON)	PUSH-UP TRAVEL (mm)
20	9.42	0.13
40	18.84	0.23
60	28.25	0.31
80	37.68	0.38
100	47.10	0.455
120	56.52	0.52
140	65.94	0.59
160	75.36	0.655



JIS A4 SIZE (250% × 180%)

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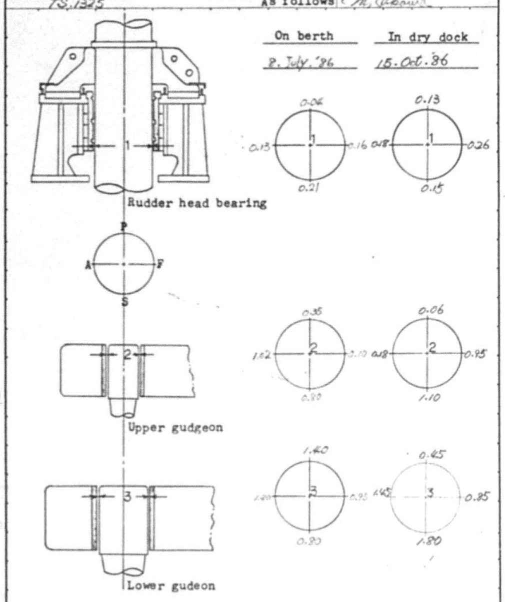
検査成績表
INSPECTION RESULT

発行 DATE		頁 PAGE	
品名 NAME	Rudder stock, pintle & bearing	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.LTD.TAMANO SHIP YARD 造船品質保証部 QUALITY ASSURANCE DEPARTMENT	
検査事項 ITEM	Clearance		
船名 NAME OF SHIP	TILLIE LYKES	船主 OWNER	LYKES
工事番号 SHIP NO.	TS.1325	計測場所 PLACE	On berth
計測月日 MEASURED DATE	As follows		



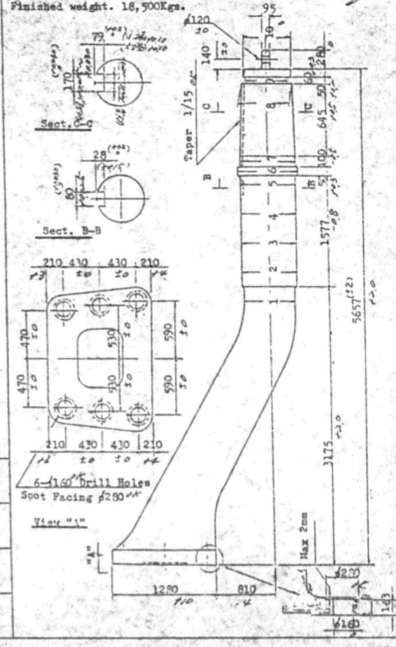
Unit in 1/100 mm.

P.47

WITNESS ______ DATE INSPECTED 20th Feb., 86

ORDER No.	85-32416-0	INSPECTION REPORT 検査成績表	CLASS	SURVEYOR
			ABS	
ORDERER	Mitsui Engineering & Shipbuilding Co., Ltd. Tamano Works		TSUNEISHI IRONWORKS CO.,LTD 常石鉄工株式会社	
HULL No.	1325	DESCRIPTION	Rudder Stock	QUALITY CONTROL DEPARTMENT
ENG No.	-			SEC. CHIEF / ASSIST. CHIEF / CHARGEING
DWG No.	2104301-B	QUANTITY	1	
TEST No.	T59944A-1	MATERIAL	ABS. Grade-2	

Finished weight. 18,500Kgs.



Measure Point	1	2	3	4	5	6	7	8	9	10
Dwg. Size	ø655	ø660				ø700	ø635	ø612	ø510	ø590
Tolerance	+1.0 / 0	0 / -0.125				-	+0.1	-	-	-
Actual Value P-A	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Actual Value P-S	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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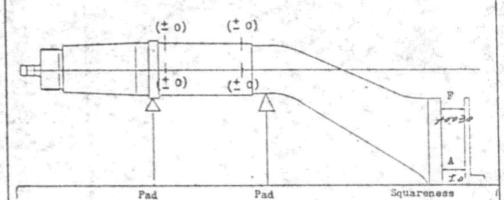
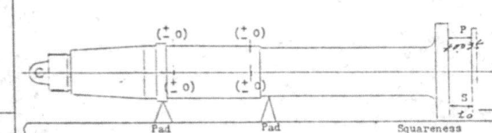
WITNESS ______ DATE INSPECTED 20th Feb., 86

ORDER No.	85-32416-0	INSPECTION REPORT 検査成績表	CLASS	SURVEYOR
			ABS	
ORDERER	Mitsui Engineering & Shipbuilding Co.,Ltd. Tamano Works.		TSUNEISHI IRONWORKS CO.,LTD 常石鉄工株式会社	
HULL No.	1325	DESCRIPTION	Rudder Stock	QUALITY CONTROL DEPARTMENT
ENG No.	-			SEC. CHIEF / ASSIST. CHIEF / CHARGEING
DWG No.	2104301-B	QUANTITY	1	
TEST No.	T59944A-1	MATERIAL	ABS. Grade-2	





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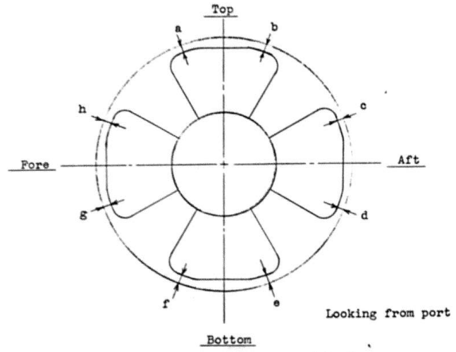
検査成績表
INSPECTION RESULT

品名 NAME	Bow thruster
検査事項 ITEM	Clearance
船名 NAME OF SHIP	TILLIE LYKES — 船主 OWNER: LYKES
工事番号 SHIP NO	TS.1325 — 計測場所 PLACE: Dry Dock — 計測月日 MEASURED DATE: 14.Oct.'86

三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD TAMANO SHIP YARD
造船品質保証部 QUALITY ASSURANCE DEPARTMENT



Unit in mm.

Position \ Blade No.	1	2	3	4
a	21.4	20.9	21.2	21.3
b	22.4	22.0	21.9	21.9
c	21.0	21.3	21.4	21.4
d	19.6	19.4	19.4	19.6
e	19.8	19.8	19.8	19.5
f	20.3	20.0	20.6	20.5
g	21.0	21.0	20.8	20.9
h	21.6	22.0	21.8	21.6

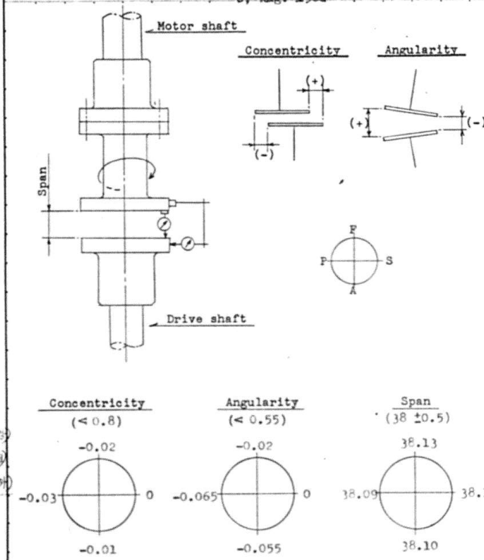
配布先
OW 2
ABS 1
計-造(機) 1
計-艤 2
計 6

P.50

検査成績表
INSPECTION RESULT

品名 NAME	Bow thruster
検査事項 ITEM	Center alignment
船名 NAME OF SHIP	"TILLIE LYKES" — 船主 OWNER: LYKES
工事番号 SHIP NO	1325 — 計測場所 PLACE: On board — 計測月日 MEASURED DATE: 6, Aug. 1986

三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD TAMANO SHIP YARD
造船品質保証部 QUALITY ASSURANCE DEPARTMENT



Uniy in mm.

配布先
OW 1
ABS 1
船計-機(内)
船計-造(機)
船設-機(外)
計 5

P.51

検査成績表
INSPECTION RESULT

品名 NAME	TEMP. SWITCH (1/3)
検査事項 ITEM	SETTING
船名 NAME OF SHIP	TILLIE LYKES — 船主 OWNER: LYKES BROS.
工事番号 SHIP NO	1325 — 計測場所 PLACE: IN SHOP — 計測月日 MEASURED DATE: AS FOLLOWS

三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD TAMANO SHIP YARD
造船品質保証部 QUALITY ASSURANCE DEPARTMENT

UNIT IN ℃

ITEM No.		NAME OF TEMP. SWITCH	SET.	ACTUAL	TEST DATE
121	MAIN ENGINE	L.O. INLET	ESLD 60	59.5	6. Aug. '86
122		NO.1 CYL. PISTON COOL. OIL OUTLET	ESLD 75	74.5	6. Aug. '86
		NO.2 —"—		74.5	
		NO.3 —"—		75.0	
		NO.4 —"—		75.4	
		NO.5 —"—		74.5	
		NO.6 —"—		74.2	
		NO.7 —"—		75.0	
		NO.8 —"—		75.0	
		NO.9 —"—		75.2	
130		NO.1 CYL. COOL. F.W. OUTLET	ESLD 95	94.5	6. Aug. '86
		NO.2 —"—		95.0	
		NO.3 —"—		95.0	
		NO.4 —"—		95.0	
		NO.5 —"—		94.5	
		NO.6 —"—		94.0	
		NO.7 —"—		95.0	
		NO.8 —"—		94.5	
		NO.9 —"—		94.2	
201		NO.1 CYL. SCAV. AIR BOX FIRE	TAH 85	84.8	6. Aug. '86
		NO.2 —"—		85.0	
		NO.3 —"—		85.0	
		NO.4 —"—		85.0	
		NO.5 —"—		84.8	
		NO.6 —"—		84.5	
		NO.7 —"—		84.5	
		NO.8 —"—		85.0	
		NO.9 —"—		85.0	

- CONTINUE -

配布先
OW 2
ABS 1
USCG 1
船計-電 1
船設(電) 1
計 6

P.52

検査成績表
INSPECTION RESULT

品名 NAME	TEMP. SWITCH (2/3)
検査事項 ITEM	SETTING
船名 NAME OF SHIP	TILLIE LYKES — 船主 OWNER: LYKES BROS.
工事番号 SHIP NO	1325 — 計測場所 PLACE: IN SHOP — 計測月日 MEASURED DATE: AS FOLLOWS

三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.,LTD TAMANO SHIP YARD
造船品質保証部 QUALITY ASSURANCE DEPARTMENT

UNIT IN ℃

ITEM No.		NAME OF TEMP. SWITCH	SET.	ACTUAL	TEST DATE
201	MAIN ENGINE	NO.1 CYL. SCAV. AIR BOX FIRE	ESLD 90	89.5	6. Aug. '86
		NO.2 —"—		89.5	
		NO.3 —"—		89.5	
		NO.4 —"—		89.5	
		NO.5 —"—		89.5	
		NO.6 —"—		90.0	
		NO.7 —"—		89.5	
		NO.8 —"—		89.3	
		NO.9 —"—		89.3	
141		THRUST BEARING PAD	ESD 85	85.0	6. Aug. '86
367	DIESEL GENERATOR	FUEL OIL INLET COMMON LINE	TAH 145	144.0	6. Aug. '86
		—"— BLEND OIL	TAL 125	124.0	
368		NO.1 D/G COOL. F.W. OUTLET	ESD 90	89.5	
		NO.2 —"—		90.0	
		NO.3 —"—		90.0	
443	EMERG. DIESEL GENERATOR	COOL. F.W. WATER	ESD 96	95.0	6. Aug. '86
		—"—	TAH 89	89.0	
517	BOILER	FUEL OIL BURNER INLET	ESD-H 140	139.0	6. Aug. '86
		—"—	ESD-L 85	84.5	
648		WASTE OIL SERV. TANK	ESD-H 120	120.0	
649		WASTE OIL BURNER INLET	ESD-L 60	60.0	
607	AIR COMPRESSOR	NO.1 MAIN AIR COMP. AIR HIGH	ESD 95	95.0	6. Aug. 86
		NO.2 —"—		94.2	
		NO.3 —"—		95.0	
611		TOPPING UP AIR COMP. AIR HIGH	ESD 95	95.0	
618		SHIP SERV. AIR COMP. AIR HIGH	ESD 75	72.2	
621	H.F.O. PURIF.	NO.1 H.F.O. PURIFIER F.O. INLET	TAH 105	104.0	6. Aug. '86
		NO.2 —"—		105.0	

- CONTINUE -

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検査成績表
INSPECTION RESULT

発行 DATE | 頁 PAGE

品名 NAME	TEMP. SWITCH (3/3)	三井造船株式会社玉野造船工場 MITSUI ENG.&SHIP-BUILDING CO.LTD.TAMANO SHIP YARD
検査事項 ITEM	SETTING	造船品質保証部 QUALITY ASSURANCE DEPARTMENT
船名 NAME OF SHIP	TILLIE LYKES — 船主 OWNER LYKES BROS.	M. Fujioka
工事番号 SHIP NO.	1325 — 計測場所 PLACE IN SHOP — 計測月日 MEASURED DATE AS FOLLOWS	T. Katsumura

UNIT IN °C

ITEM No.		NAME OF TEMP. SWITCH	SET.		ACTUAL	TEST DATE
629	L.O. PURIFIER	NO.1 L.O. PURIFIER L.O. INLET	TAH	90	89.5	6. Aug. '86
		NO.2 — " —			89.5	
		AUX. — " —			89.8	
701	F.O. TANK	H.F.O. SETTLING TANK (STARBOARD)	TAH	75	74.3	6. Aug. '86
		— " — (PORT)			74.3	
702		H.F.O. SERVICE TANK	TAH	95	92.5	
						-END-

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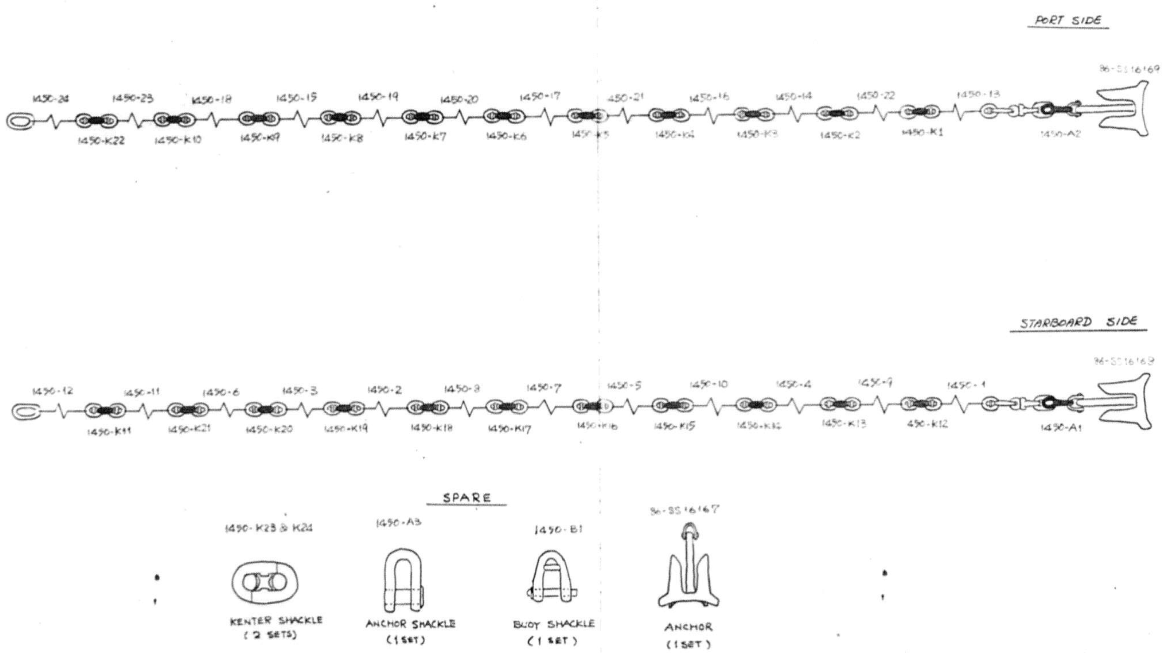
8-July-'86 AT BERTH

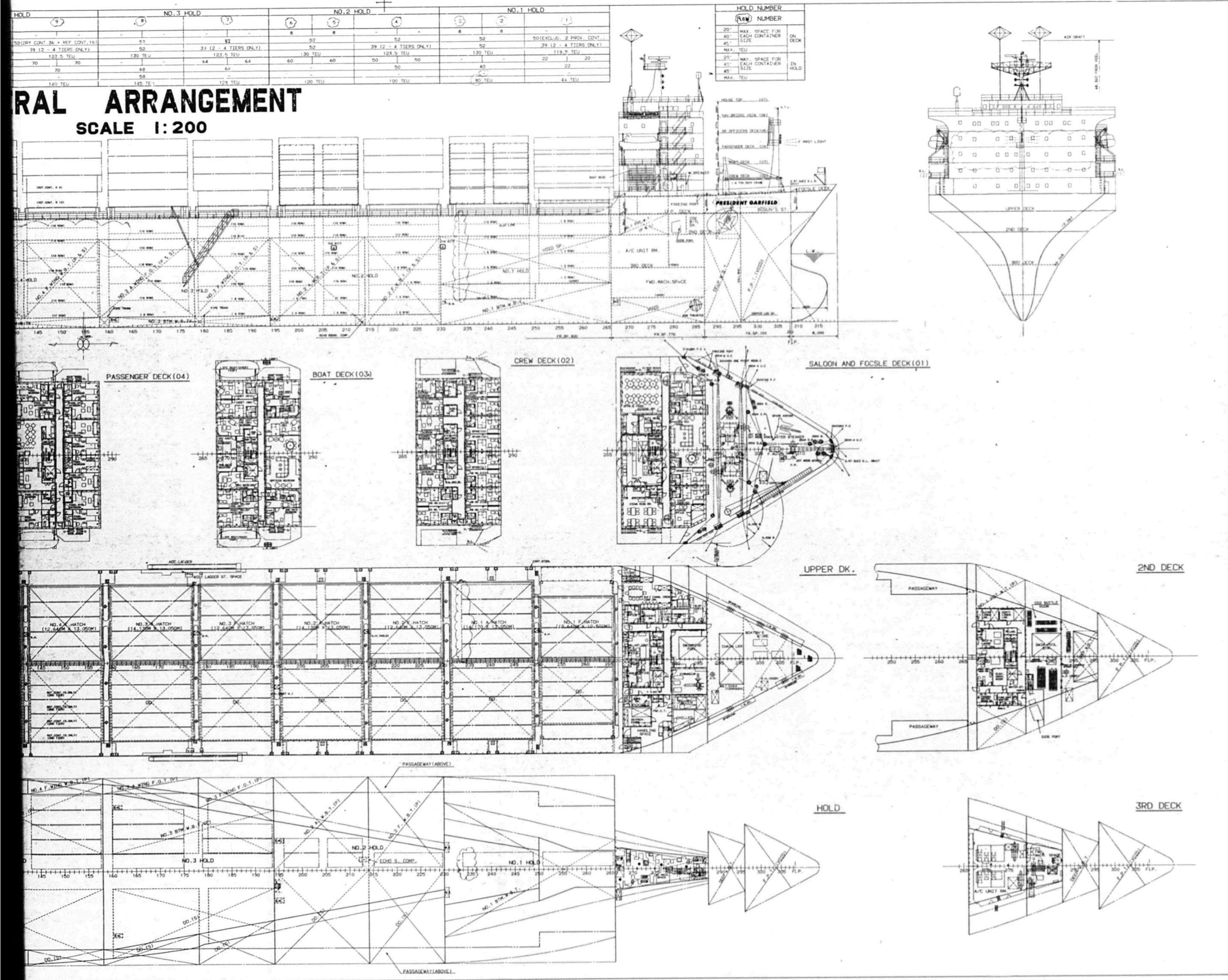
TS 1325 M/V TILLIE LYKES ARRANGEMENT OF ANCHOR & CHAIN CABLE

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO SHIPYARD
SHIP QUALITY ASSURANCE DEPT.



RAL ARRANGEMENT

SCALE 1:200



HISTORY

PREPARED FOR S.1325 AS FINISHED PLAN

2 REVISED THE AREAS WITH ⌒ MARK FOR APL MODIFICATION.

PRINCIPAL PARTICULARS

1. PRINCIPAL DIMENSIONS

LENGTH (OVERALL)	259.0 M
LENGTH (P.P.)	245.000 M
BREADTH (MOULDED)	32.200 M
DEPTH (MOULDED)	18.800 M
FULL LOAD DRAFT (KEEL DRAFT)	11.920 M
DESIGN LOAD DRAFT (KEEL DRAFT)	10.2?0 M

2. TONNAGE

	INTERNATIONAL	USA	SUEZ	PANAMA
GROSS	39132 T	36799.54 T	40106.54 T	40622.36 T
NET	15633 T	24112 T	34136.10 T	32035.57 T

3. DEADWEIGHT & CAPACITY

DEADWEIGHT AT F.L. DRAFT 44,966 MT

NUMBER OF CONTAINERS (MAXIMUM)

ON DECK : 1,710 TEU (20':46, 40':182, 45':520)

IN HOLD : 1,315 TEU (20':120, 40':450, 45':118)

TOTAL 3,025 TEU

(CAPABILITY OF REFRIGERATED CONTAINERS

ON DECK : 40':60

IN HOLD : 40':48)

4. MAIN ENGINE

TYPE & NO. : MITSUI-B & W 9L80MCE X 1 SET

M.C.R. : 28,800 PS X 83.0 RPM

N.S.R. : 25,500 PS X 79.7 RPM

5. SPEED, FUEL CONSUMPTION & ENDURANCE

TRIAL MAX. SPEED : 23.17 KNOTS

(AT M.C.O. , Δ = 31,020MT)

SERVICE SPEED : 21.17 KNOTS

(AT DESIGN LOAD DRAFT & N.S.R. WITH 15% SEA MARGIN)

FUEL CONSUMPTION : 78.1 KT/DAY

ENDURANCE : 21,280 SEA MILES

6. COMPLEMENT

DECK		ENGINE			
MASTER	1	CH. ENG	1	RADIO OFF'R	1
CH. MATE	1	1ST ASST. ENG'R	1		
2ND MATE	1	2ND ASST. ENG'R	1		
3RD MATE	1	3RD ASST. ENG'R	1		
NIGHT RELIEF MATE	1	NIGHT RELIEF ENG'R	1		

OFFICER TOTAL 11

BOATSWAIN	1	ELECTRICIAN	1	STEWARD	1

PETTY OFFICER TOTAL 3

ORDINARY S.	2	ABLE S.	3	STEWARD UTIL	1
WIPER	2	CH.COOK	1		

CREW TOTAL	9
CADET	2
PILOT	1
SPARE	4 (OWNER 3, CREW 1)
PASSENGER	12
GRAND TOTAL	42 PERSONS

7. OTHERS

CLASS	: ABS A1 Ⓔ, AMS, ACCU (CONTAINER SHIP)
PORT OF REGISTRY	: NEW ORLEANS,LA
SIGNAL LETTERS	: WGXN
OFFICIAL NO.	: 905624
OWNER	: LYKES BROS. STEAMSHIP CO., INC.
BUILDER	: MITSUI ENGINEERING & SHIPBUILDING CO., LTD. TAMANO WORKS
KEEL LAID	: APRIL 1, 1985
LAUNCHED	: JULY 10, 1986
DELIVERED	:

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD. TAMANO WORKS

SHIP'S NO. 1325 SHIP'S NAME TILLIE LYKES

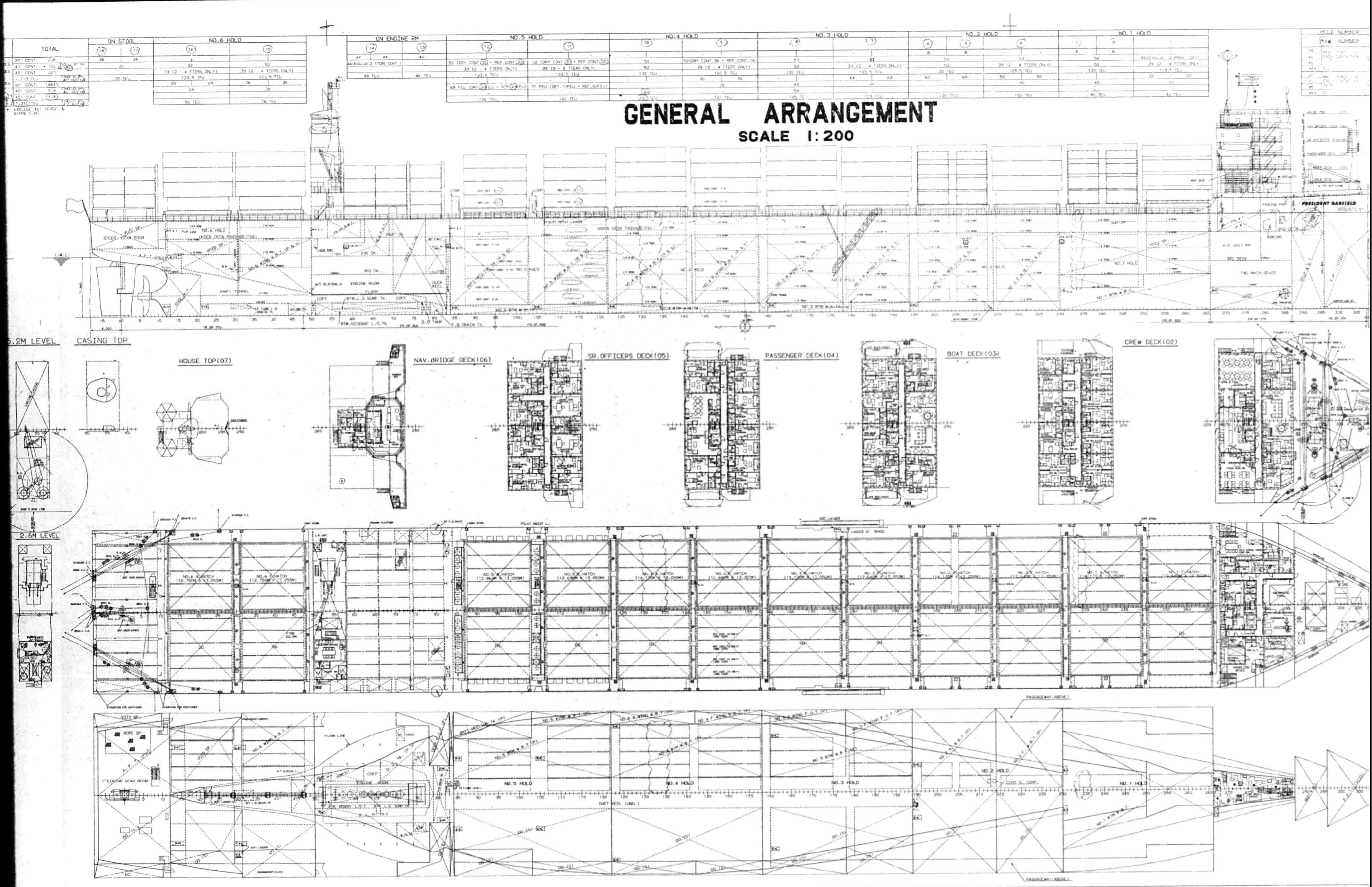
CO-ORDINATION SECT

APL MODIFICATION

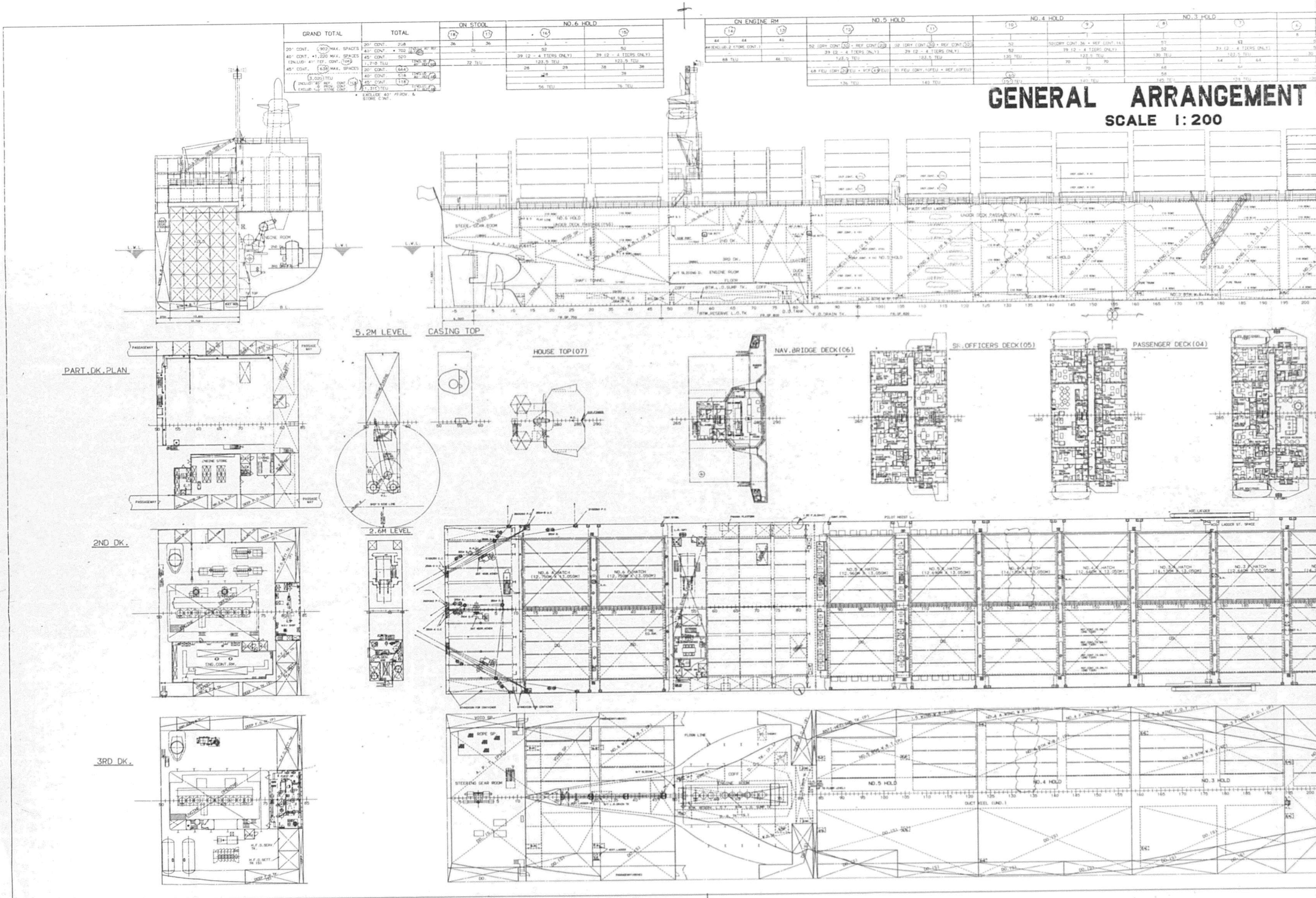
一般配置図

GENERAL ARRANGEMENT

SCALE 1/200 LYKES REF. NO. 090101 MITSUI DRAWING NO. 1100081M


GENERAL ARRANGEMENT
SCALE 1:200
PRESIDENT GARFIELD
CASING TOP
HOUSE TOP(07)
NAV. BRIDGE DECK(06)
SR. OFFICERS DECK(05)
PASSENGER DECK(04)
BOAT DECK(03)
CREW DECK(02)
2.6M LEVEL
NO.6 HOLD
NO.5 HOLD
NO.4 HOLD
NO.3 HOLD
NO.2 HOLD
NO.1 HOLD
ON ENGINE RM
ON STOOL
TOTAL
ENGINE ROOM
STEERING GEAR ROOM
ROPE SP.
VOID SP.
DUCT KEEL

2/3 70


GENERAL ARRANGEMENT
SCALE 1:200
GRAND TOTAL
TOTAL
ON STOOL
NO.6 HOLD
ON ENGINE RM
NO.5 HOLD
NO.4 HOLD
NO.3 HOLD
5.2M LEVEL
CASING TOP
HOUSE TOP(07)
NAV.BRIDGE DECK(06)
SR.OFFICERS DECK(05)
PASSENGER DECK(04)
PART.DK.PLAN
2ND DK.
2.6M LEVEL
3RD DK.
ENGINE ROOM
SHAFT TUNNEL
STEERING GEAR ROOM
ENG.CONT.RM.

3/3 71

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	JAN. 31'85	OFTS/HES/2619			—	—		
A	APR. 16 '86	OFTS/HES/2736			June 6 '86	77/59 7-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER

SHIP'S NO. **NO.1325** SHIP'S NAME **TILLIE LYKES**

OUTFITTING DESIGN SECTION

SEC. CHIEF

ホースパイプ及びチェーンパイプ

HAWSE PIPE AND CHAIN PIPE

JOB NO. TS1323/24/25
JOBCLASSIF. NO. B-03-02
SCALE 1/50
LYKES REF. NO. 110101
MITSUI DRAWING NO. 4102201

(11 SHEETS WITH COVER)

1/11

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
1		PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325.	NOVEMBER 20.'86

DWG. NO. 4102201 2/11

GENERAL NOTE

1. THIS PLAN SHOWS S. SIDE, BOTH SIDES TO BE SYMMETRIC.
2. DIMENSIONS WITH MARK ※ TO BE DECIDED ON BOARD.
3. ANCHOR HOUSING ARRANGEMENT HAS BEEN DECIDED ON BASIS OF MOCK UP TEST ON JAN. 7'1985.

DWG. NO. 4102201 3/11

(WORKING NOTE:)

注: 1. 本図は右舷側を示す。左舷側は本図と対称のこと。
2. ※印寸法は現場再調の上決定のこと。
3. 鋼材は船殻で手配したものを使用のこと。

(WORKING NOTE)
A-1 改 改正要領

1. 符号⑦ チェーンストッパーの位置を本図の如く改正する。(5/5頁参照) 尚※印寸法は現場再調のこと。
2. S.No.1323のみ 符号⑫ カーリングは ⓔ にて取付けのこと。尚カーリングは在庫品(在庫 No. 2521)をカットうえ取付け施工のこと。(5/5頁参照)
3. S.No.1324, 1325の 符号⑫ カーリングは本改正図に従って鉄-構(甲)板にて製作、取付けのこと。(5/5頁参照)
4. S.No.1323, 1324のチェーンストッパー台の1部分は ⓔ にてカットのこと。尚 No.1325は補機台図を改正する。(5/5頁参照)

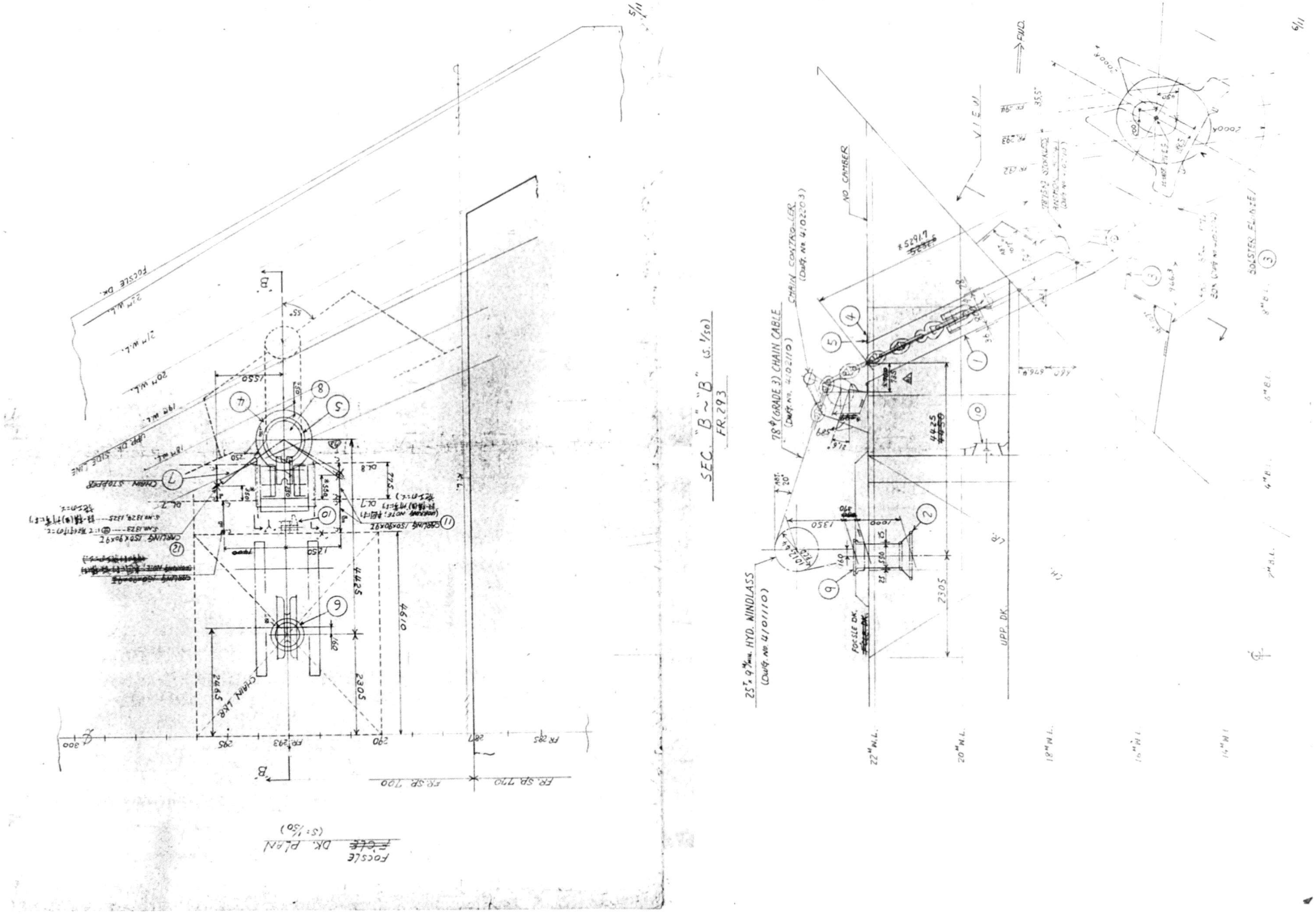
- STOCKLESS ANCHOR (AC-14 TYPE) 7875 kg
- ANCHOR CHAIN CABLE (GRADE 3) 78 φ m/m

符号 NO.	名称 NAME	材料 MATERIAL	試験片 TEST PIECE	常用 USE	予備 SPARE	合計 TOTAL	関係工場 WORK SHOP	1個 ONE	合計 TOTAL	記事 REMARKS
12	CARLING	MILD STEEL AA				2	ⓔ → S.No.1323; 鉄-構(甲)板 → S.No.1324/5			
11	CARLING	MILD STEEL AA				1式	鉄-構(甲)板			
10	CABLE CLENCH	MILD STEEL				2	ⓔ 鍛			WORKING NOTE Dwg. 4102225にて手配す
9	CHAIN PIPE COVER	MILD STEEL				2	ⓔ			
8	HAWSE PIPE COVER	MILD STEEL				2	〃			
7	CHAIN STOPPER	WIRE ROPE & MILD STEEL				2	ⓔ			WORKING NOTE Dwg. 4202254にて手配す
6	DOUBLING PLATE	MILD STEEL AAS				2	鉄-構(甲)板			
5	ROPE GUARD	MILD STEEL SS41				2	鉄-構(甲)板			
4	DOUBL. PLATE	MILD STEEL AAS				2	鉄-構(甲)板			
3	BOLSTER FLANGE	CAST STEEL SC42				2	ⓔ 鋳			① Dwg. No. 4202112にて手配す。
2	CHAIN PIPE	MILD STEEL AAS				2	鉄-構(甲)板			
1	HAWSE PIPE	MILD STEEL AAS				2	鉄-構(甲)板			

QUANTITY SHOWS PER ONE SHIP
製造個数は 1隻 分を示す(手配は本図と対称のこと)(1隻分) 3隻分製造のこと。

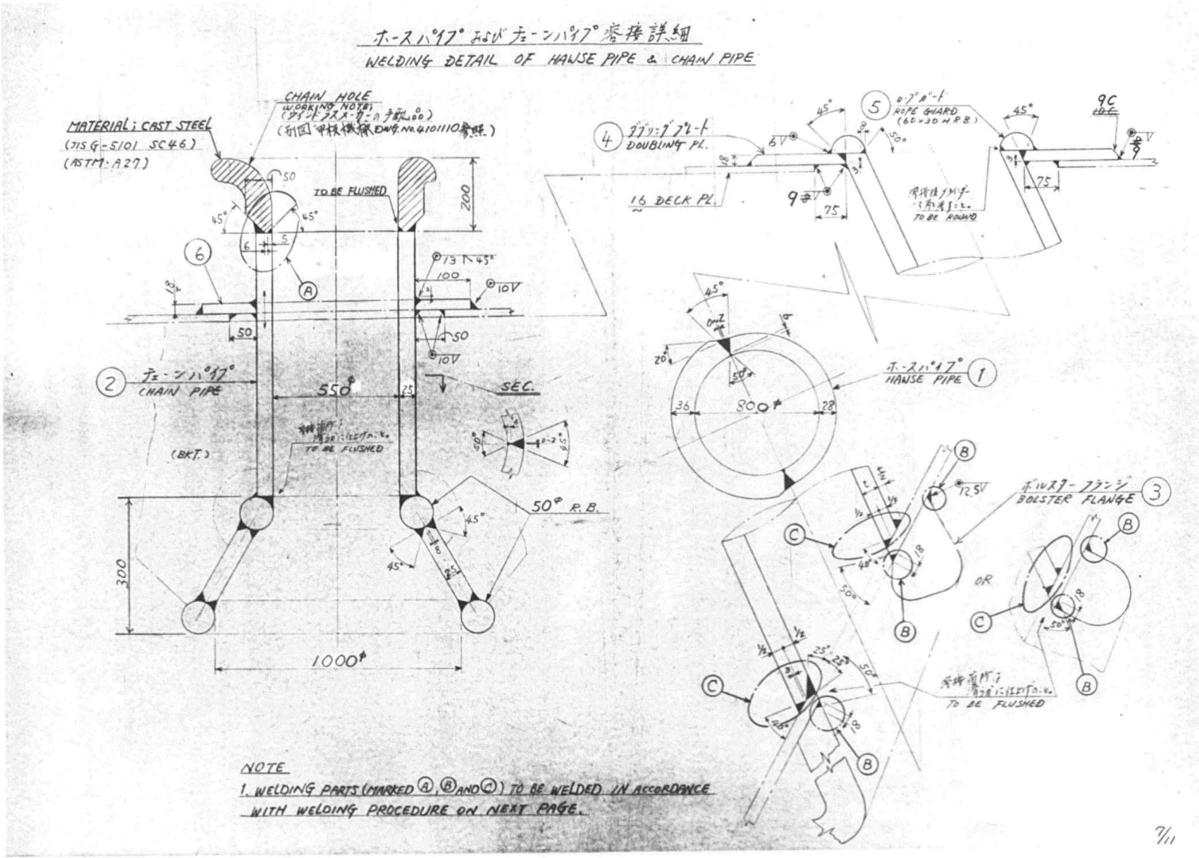
HAWSE PIPE & CHAIN PIPE

尺度 SCALE | TSO. | DR. NO. | PAGE 4/11



FOCSLE DK. PLAN (S=1/50)
CHAIN STOPPER
FOCSLE DK.
SEC. "B"~"B" (S.1/50)
FR.293
25T x 97mm HYD. WINDLASS
78φ (GRADE 3) CHAIN CABLE
CHAIN CONTROLLER
NO CAMBER
UPP. DK
BOLSTER FLANGE

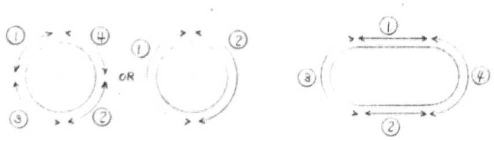
73



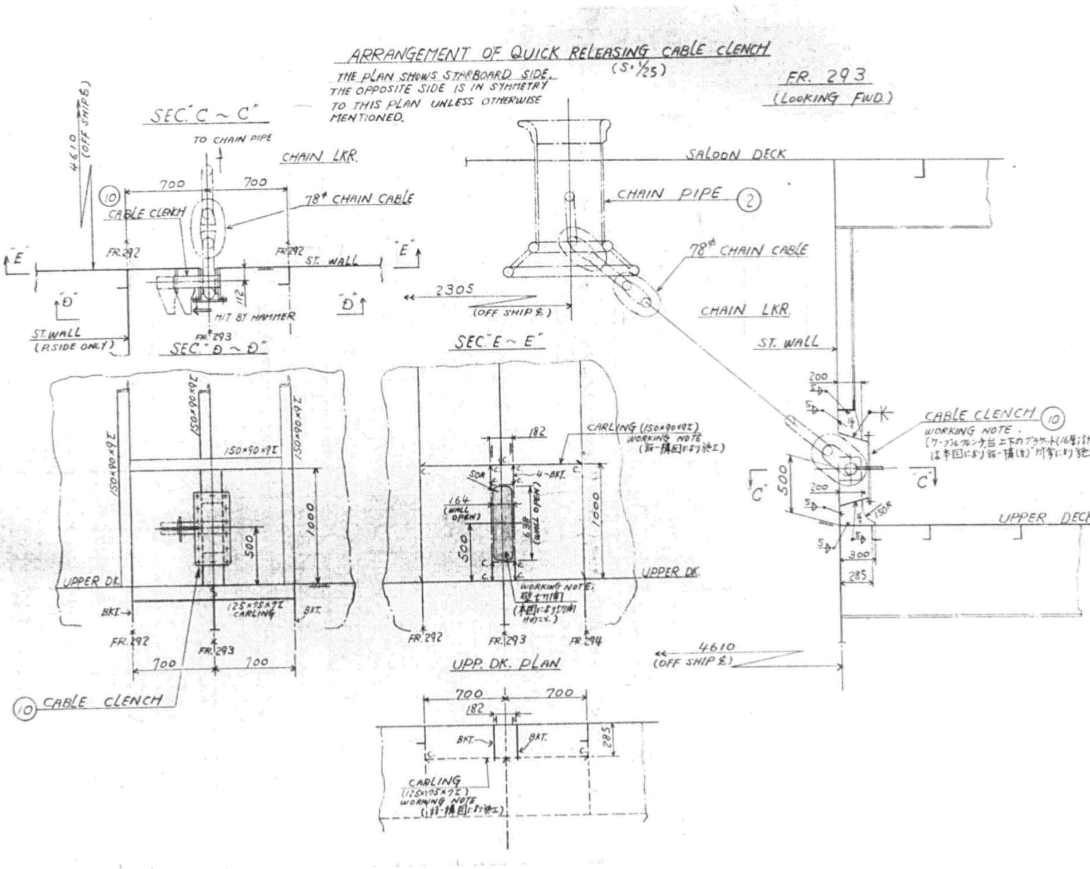
WELDING PROCEDURE SPECIFICATION

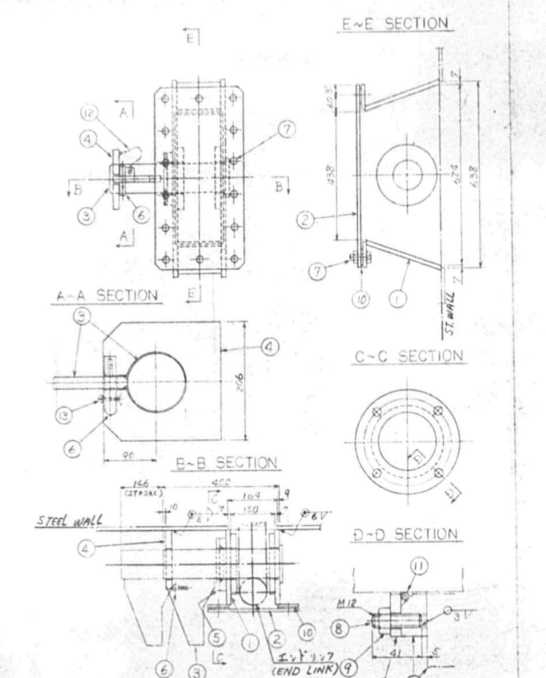
ITEM \ WELDING POSITION	MARKED Ⓐ (WELD JOINT OF CHAIN HOLE AND CHAIN PIPE)	MARKED Ⓑ (WELD JOINT OF BOLST. FL. AND RAISED BELMOUTH)	MARKED Ⓒ (WELD JOINT OF HAWSE PIPE AND RAISED BELMOUTH)
WELDING PROCESS	CO_2 SEMI-AUTOMATIC WELDING	DO.	DO.
FILLER METAL GRADE	AB 2SA, 2YSA	DO.	DO.
MANUAL OR MACHINE	SEMI-AUTOMATIC	DO.	DO.
FILLER METAL	DW-100 (1.2mm DIA.) MANUFACTURE; KOBE STEEL Co., LTD.	DO.	DO.
FLUX	NONE	DO.	DO.
SHIELDING GAS	CO_2 20 ~ 25 l/min.	DO.	DO.
SINGLE OR MULTIPLE ARC	SINGLE	DO.	DO.
WELDING PARAMETERS	CURRENT; 220 ~ 340A VOLT : 25 ~ 35V SPEED : 20 ~ 35 cm/min	DO.	DO.
ROOT TREATMENT	NO BACK CHIPPING	DO.	DO.
PREHEAT TEMPERATURE	66°C min.	66°C min.	10°C min.
INTERPASS TEMPERATURE	205°C max.	DO.	DO.

WELDING SEQUENCE



8/11


ARRANGEMENT OF QUICK RELEASING CABLE CLENCH
(S=1/25)
THE PLAN SHOWS STARBOARD SIDE. THE OPPOSITE SIDE IS IN SYMMETRY TO THIS PLAN UNLESS OTHERWISE MENTIONED.
FR. 293
(LOOKING FWD)
SEC. "C ~ C"
TO CHAIN PIPE
CHAIN LKR.
78φ CHAIN CABLE
CABLE CLENCH
ST. WALL
HIT BY HAMMER
ST. WALL (P.SIDE ONLY)
SEC. "D ~ D"
SEC. "E ~ E"
SALOON DECK
CHAIN PIPE
CHAIN LKR.
ST. WALL
CABLE CLENCH
WORKING NOTE.
UPPER DECK
2305 (OFF SHIP ℄)
4610 (OFF SHIP ℄)
150×90×9I
125×75×7I CARLING
CARLING (150×90×9I)
UPPER DK.
BKT.
FR. 292
FR. 293
FR. 294
UPP. DK. PLAN
CARLING (125×75×7I)
CABLE CLENCH
9/11



TOTAL WEIGHT 106.8 KG

符号 NO	名称 NAME	材料 MATERIAL	試験片 TEST PIECE	常備 USE	予備 SPARE	合計 TOTAL	製造工場 WORK SHOP	1個 ONE	合計 TOTAL	記事 REMARKS
13	割ピン SPLIT PIN	BRASS		1		1				ϕ7×30
12	鎖付きアイ SMALL CHAIN & EYE	STEEL		1 SET		1 SET				ϕ8
11	パッキン PACKING	NEOPRENE		1		1				
10	ガスケット GASKET	NEOPRENE		1		1				
9	ナット NUT	SS41 MILD STEEL		4		4		0.2		M12 GALV.
8	植込みボルト STUD BOLT	SS41 MILD STEEL		4		4		0.3		M12×41 GALV.
7	ボルトナット BOLT & NUT	SS41 MILD STEEL		14 SETS		14 SETS		4.1		M20×45 S=30 GALV.
6	止めピン STOPPER PIN	SS41 MILD STEEL		1		1		0.4		
5	パッキン押え PACKING REPRESSION	SS41 MILD STEEL		1		1		1.1		
4	ストッパ STOPPER	SS41 MILD STEEL		1		1		4.4		
3	ピン PIN	S35C CARBON STEEL		1		1		28.5		
2	カバープレート COVER PLATE	AAS MILD STEEL		1		1		15.2		
1	本体 BODY	AAS MILD STEEL		1		1		52.1		

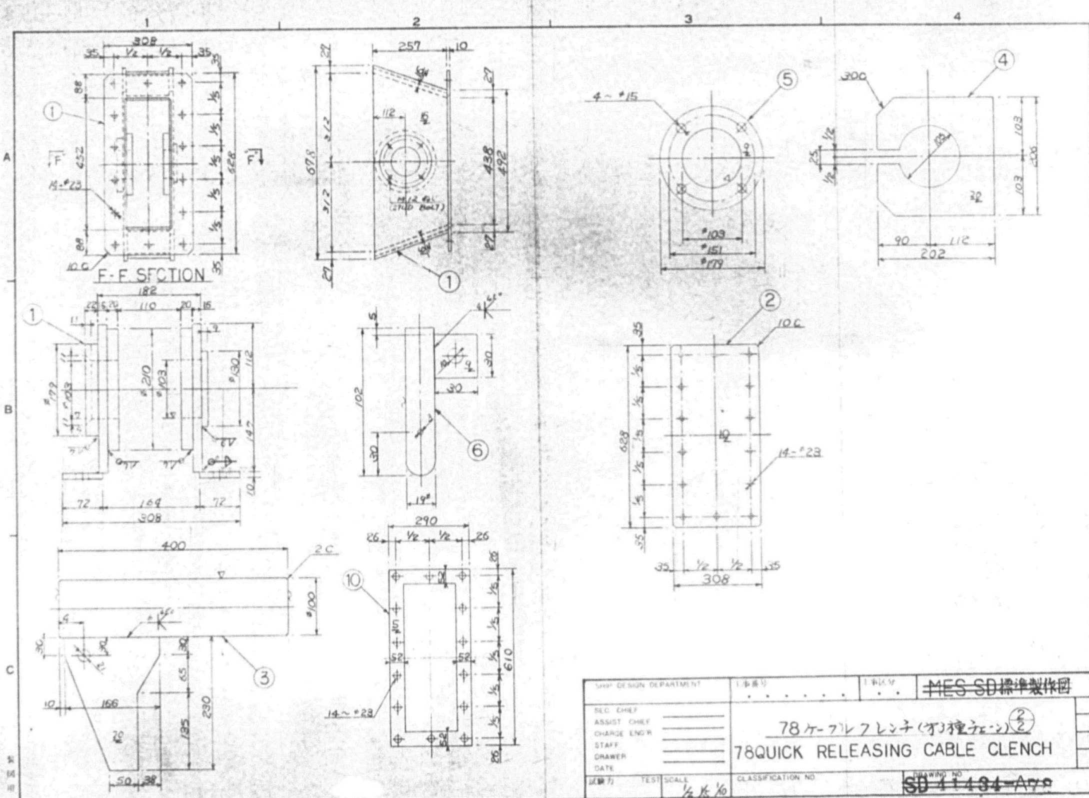
HALF IS IN SYMMETRY

製造個数は1組/台を示す.
QUANTITY SHOWS FOR ONE (1) SET TWO(2) SETS TO BE REQUIRED ON THE SHIP.

SHIP DESIGN DEPARTMENT	工事番号	工事区分	~~MES SD標準製作図~~
SEC. CHIEF / ASSIST. CHIEF / CHARGE ENG'R / STAFF / DRAWER T.E. / DATE	78ケーブルクレンチ(オコ種チェーン) (1/2) 78QUICK RELEASING CABLE CLENCH		
試験方 TEST SCALE 1/25 1/5 1/10	CLASSIFICATION NO.		DRAWING NO. ~~SD 41434-A78~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.

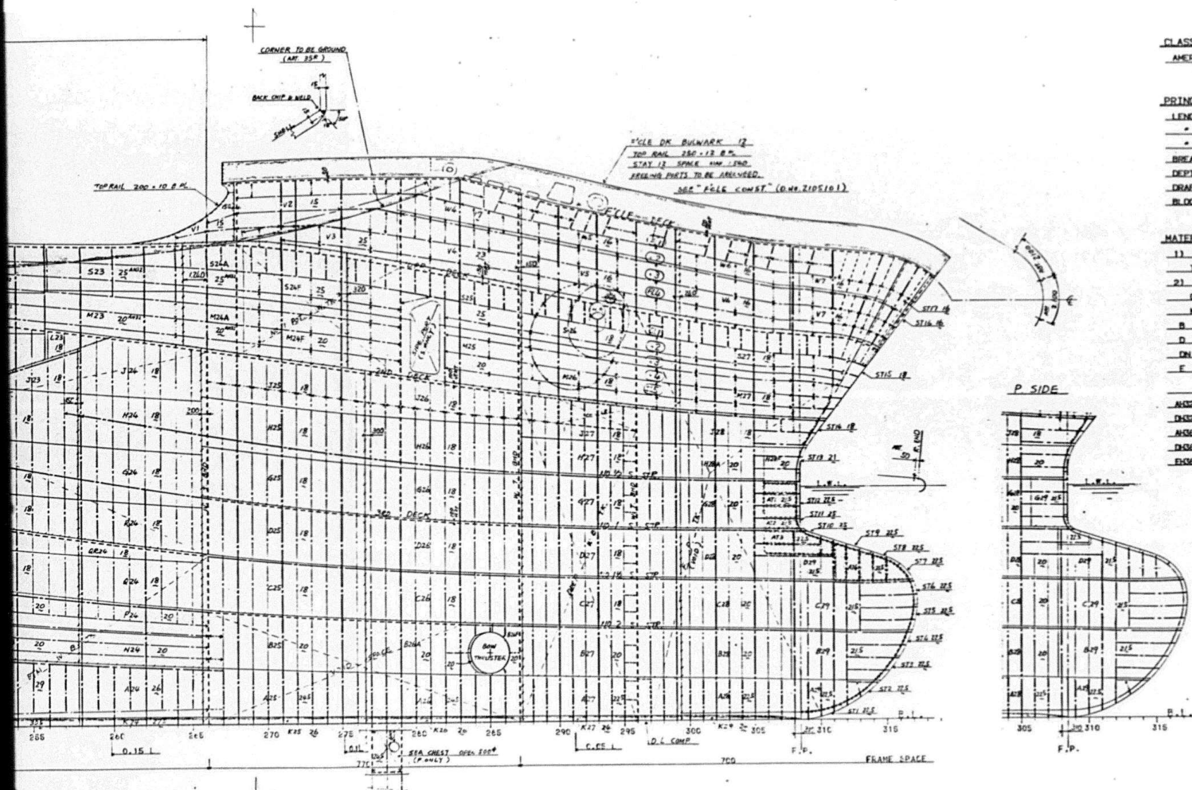
10/11



SHIP DESIGN DEPARTMENT	工事番号	工事区分	~~MES SD標準製作図~~
SEC. CHIEF / ASSIST. CHIEF / CHARGE ENG'R / STAFF / DRAWER / DATE	78ケーブルクレンチ(オコ種チェーン) (2/2) 78QUICK RELEASING CABLE CLENCH		
試験方 TEST SCALE 1/2 1/5 1/10	CLASSIFICATION NO.		DRAWING NO. ~~SD 41434-A78~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.

11/11



CLASS :-

AMERICAN BUREAU OF SHIPPING ✠A1Ⓔ, ✠AMS AND ✠ACCU

PRINCIPAL DIMENSIONS :-

			M
LENGTH		P.P.	245.000
"	(SUMMER L.W.L.)		249.100
"	(97 % OF L.W.L.)	(FOR SCANTLING)	241.627
BREADTH		MLD.	32.200
DEPTH		"	18.900
DRAFT (FOR SCANTLING)		"	11.880
BLOCK COEFFICIENT (FOR SCANTLING)			0.6*4

MATERIALS :-

1) ALL PLATES NOT EXCEEDING 12.5 M/M IN THICKNESS TO BE OF "GRADE A RIMMED STEEL".
2) PLATES EXCEEDING 12.5 M/M IN THICKNESS TO BE OF "GRADE A SEMI-KILLED STEEL" EXCEPT SPECIALLY MARKED AS FOLLOWS.

		MINIMUM YIELD STRESS (KG/MM²)
B	--- "GRADE B" SEMI-KILLED STEEL.	
D	--- "GRADE D" SEMI-KILLED STEEL. (NORMALIZED)	
DN	--- "GRADE D" KILLED STEEL. (NORMALIZED)	
E	--- "GRADE E" KILLED STEEL. (NORMALIZED)	
AH32	--- "GRADE A" HIGHER TENSILE STEEL.	32
DH32	--- "GRADE D" HIGHER TENSILE STEEL.	"
AH36	--- "GRADE A" HIGHER TENSILE STEEL.	36
DH36	--- "GRADE D" " " "	"
EH36	--- "GRADE E" " " "	"

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV. 28 '86

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	[illegible]	[illegible]			[illegible]	T-8-2		
HT REV	[illegible]	[illegible]			[illegible]	T-8-2		

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME

MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — STRUCTURE DESIGN SEC.

SHIP'S NO. 1325 — SHIP'S NAME: TILLIE LYKES

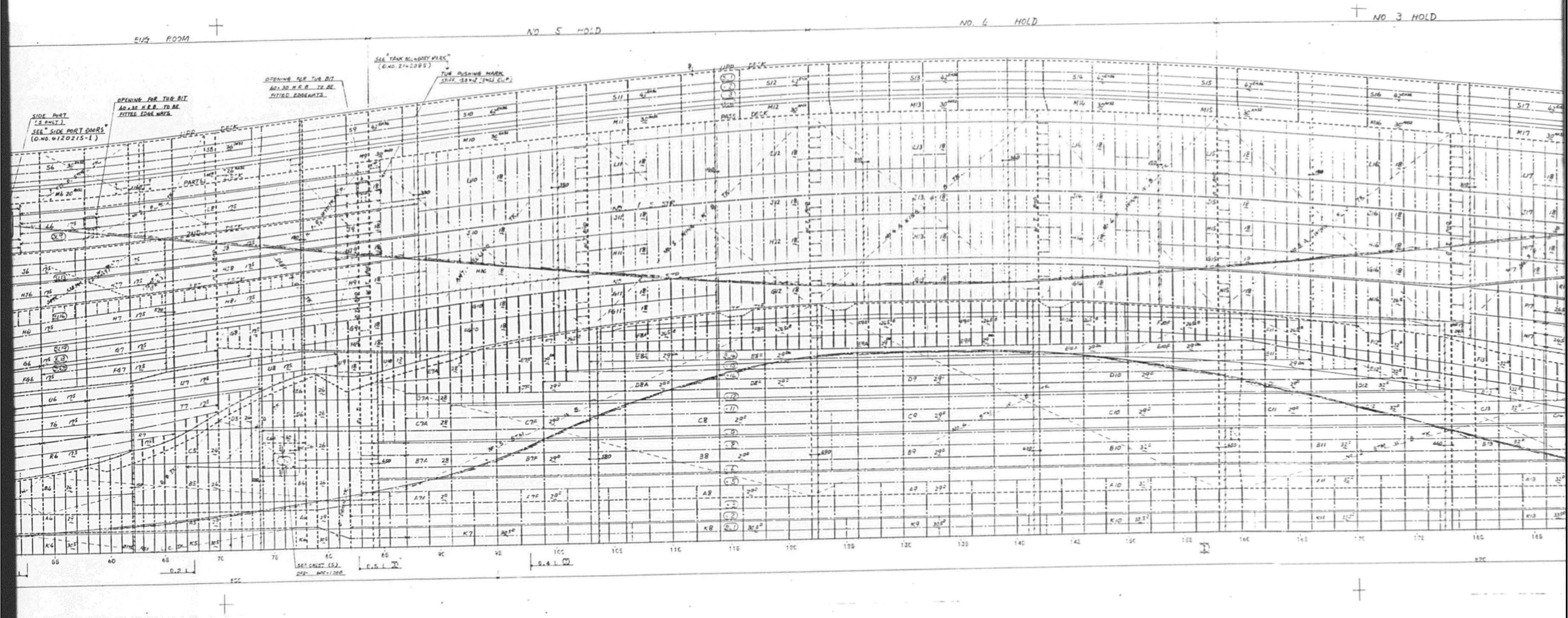
外 板 展 開

SHELL EXPANSION

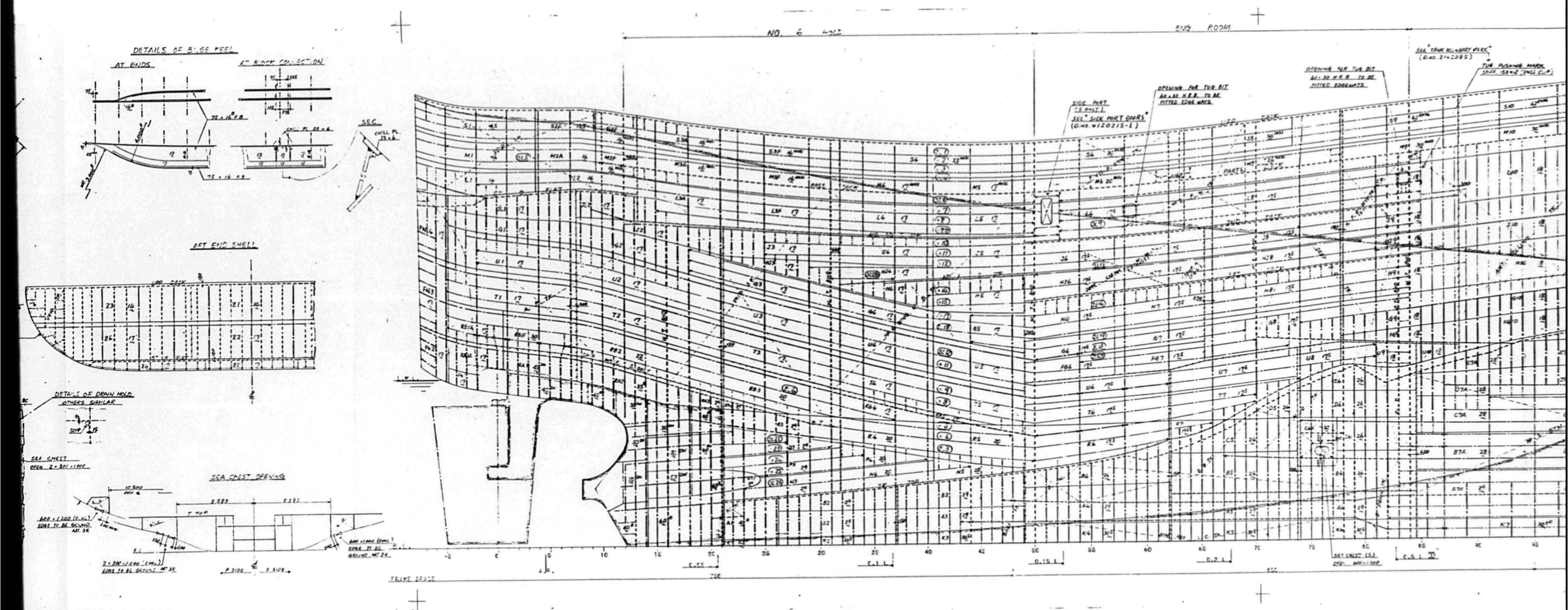
SCALE: 1/100 — LYKES REF. NO. 110102 — MITSUI DRAWING NO. 2101021

NO 3 HOLD
NO 2 HOLD
NO 1 HOLD
UPP DECK
PASS DECK
TUG PUSHING MARK
OPENING FOR TUG BITS
CORNER TO BE GROUND

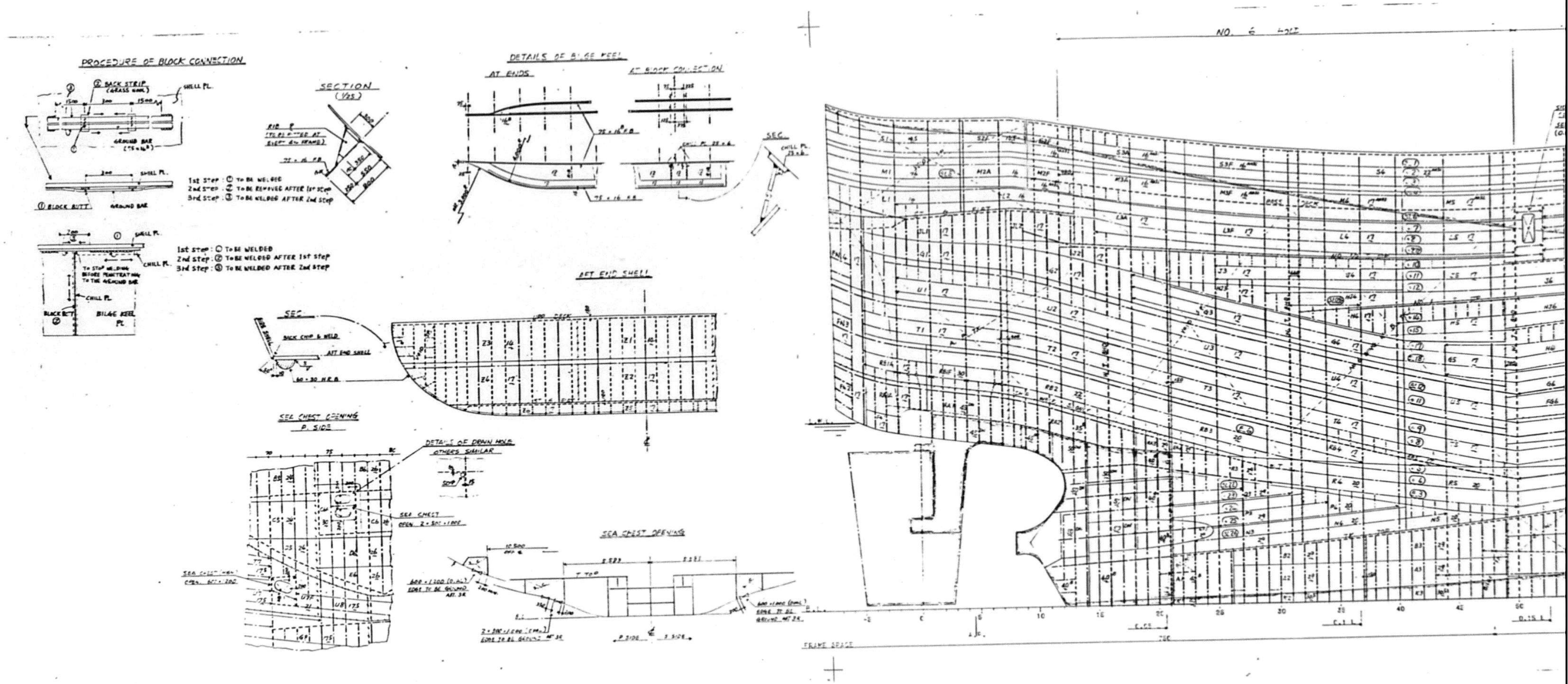
2/5 78



3/5 79


DETAILS OF BILGE KEEL
AT ENDS
AFT END SHELL
SEA CHEST OPENING
ENG. ROOM
FRAME SPACE

80


PROCEDURE OF BLOCK CONNECTION
BACK STRIP
SHELL PL.
GROUND BAR
BLOCK BUTT
1st Step : ① To be welded
2nd Step : ② To be removed after 1st step
3rd Step : ③ To be welded after 2nd step
1st step : ① To be welded
2nd step : ② To be welded after 1st step
3rd step : ③ To be welded after 2nd step
CHILL PL.
BILGE KEEL PL.
SECTION
DETAILS OF BILGE KEEL
AT ENDS
AT BLOCK CONNECTION
SEC.
AFT END SHELL
BACK CHIP & WELD
SEA CHEST OPENING
P. SIDE
DETAILS OF DRAIN HOLE
OTHERS SIMILAR
SEA CHEST
SEA CHEST OPENING
T. TOP
FRAME SPACE

APPROVAL OF OWNER & REGULATORY BODIES								
ALT.NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	Mar. 7. '85	OFTS/MES/289						
1ST REV	11 Jun '86	OFTS/MES-580			26 Jul '86	T-8-2		
1ST PART REV	4 Jul '86	OFTS/MES-661			13 Aug '86	T-8-2		
2ND PART REV	9 Jul '86	TAM/10			17 Sep '86	T-8-2		
3RD PART REV	7 Aug '86	TAM/77			17 Sep '86	T-8-2		
4TH PART REV	26 Nov '86	TAM/128			18 Dec '86	T-8-2		

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
STRUCTURE DESIGN SEC.

SHIP'S NO. **1325** SHIP'S NAME **TILLIE LYKES**

貨物倉二重底(前部)
DOUBLE BOTTOM IN HOLD (FORE)

JOB NO. TS1323/24/25
SCALE 1/100
LYKES REF. NO. 110201
MITSUI DRAWING NO. 2101101

(13 SHEETS WITH COVER)

PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV. 28. '86

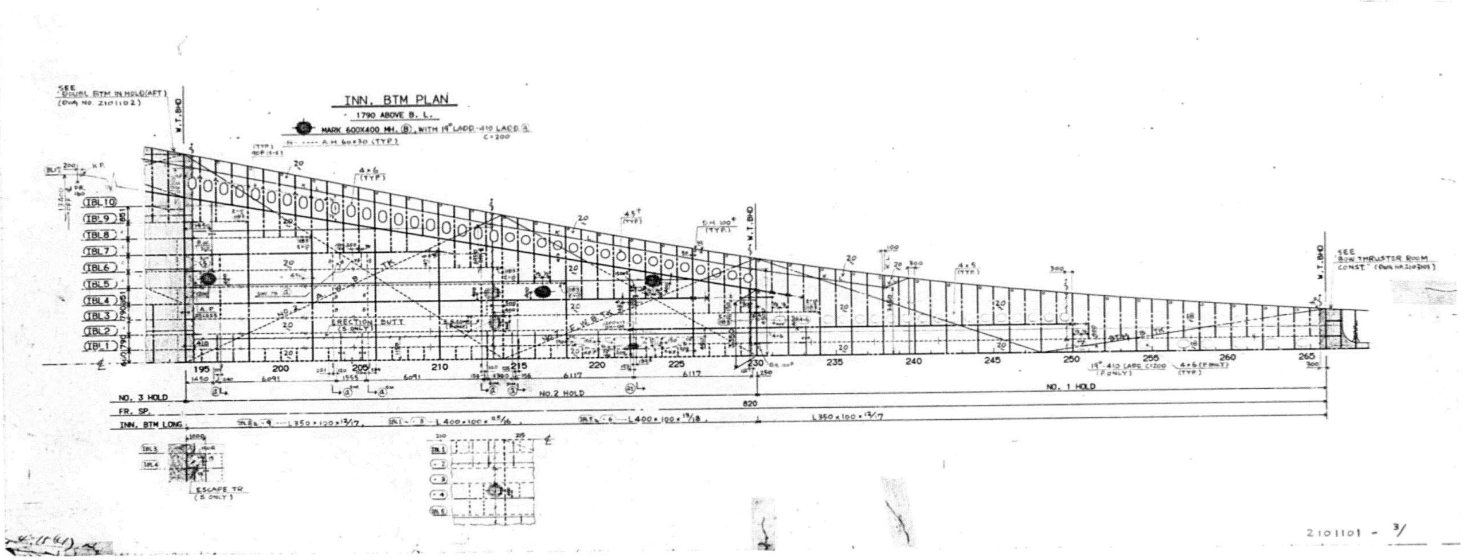
DWG.NO. 2101101-1/

NOTES:-

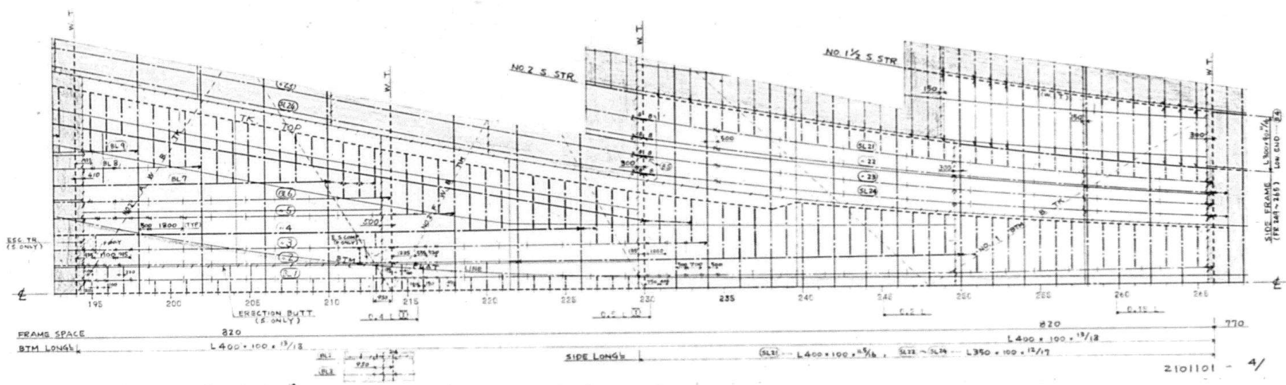
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

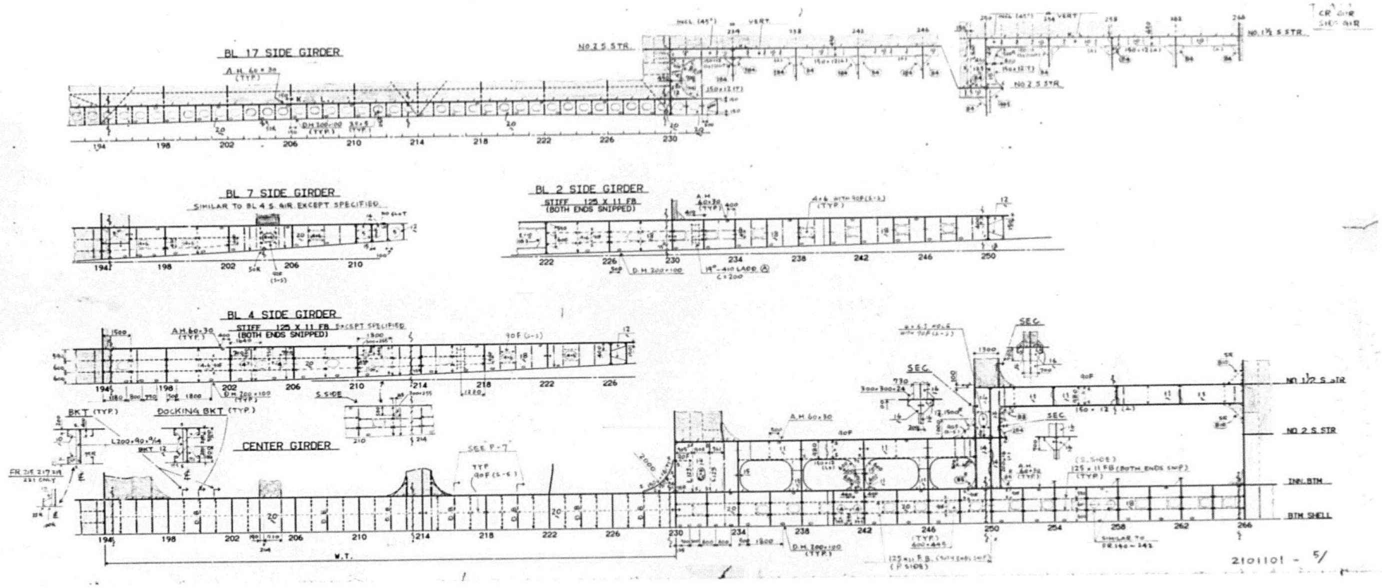
備　考:-

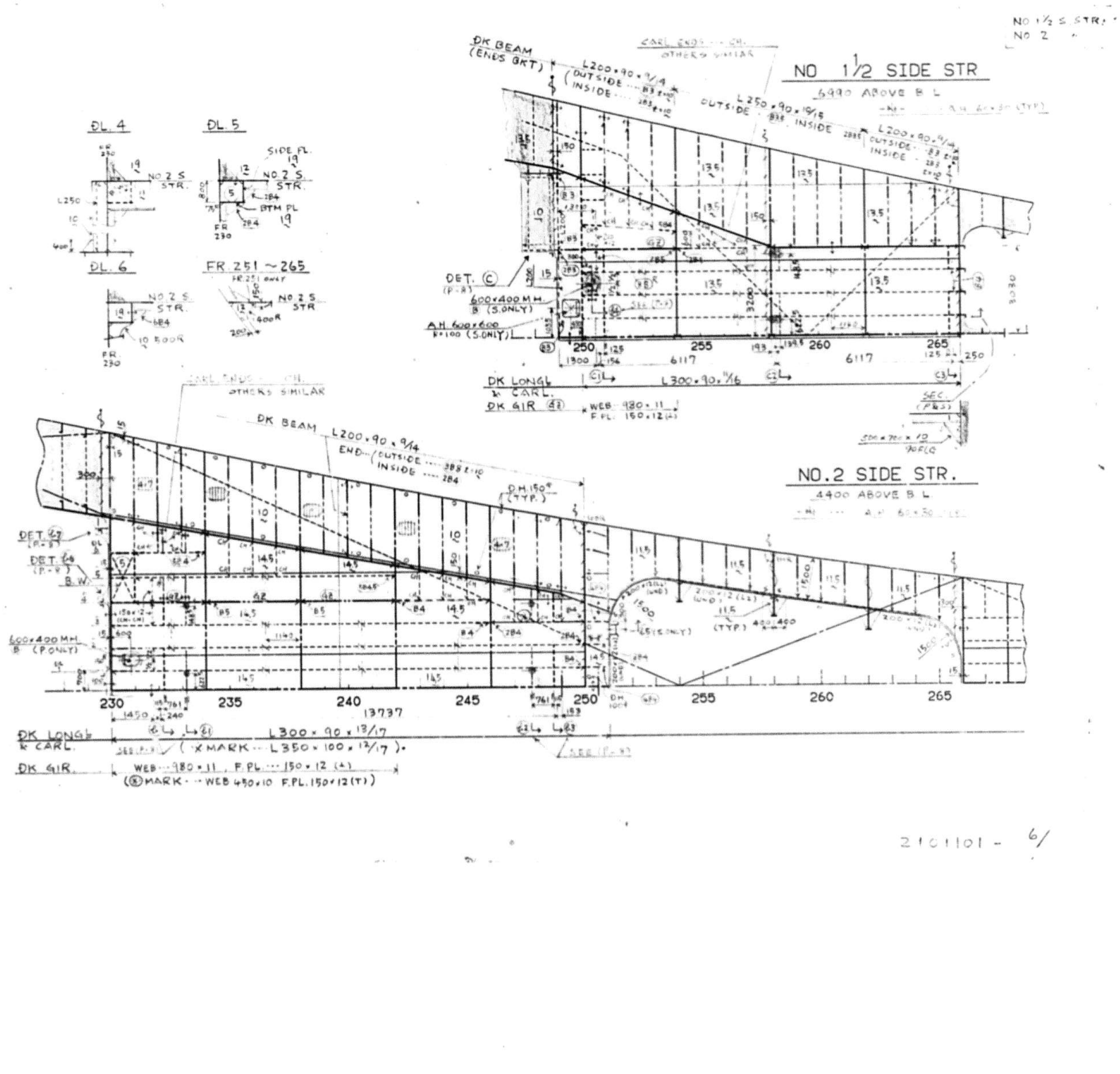
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は '構造詳細図(図番2100811)'を参照のこと。
4. 溶接脚長については，特記の他は '溶接脚長表(図番2100832)'を参照のこと。


INN. BTM PLAN
1790 ABOVE B. L.
NO. 3 HOLD
NO. 2 HOLD
NO. 1 HOLD
FR. SP.
INN. BTM LONG.
ERECTION BUTT
ESCAPE TR.
2101101 - 3/

ARRANG OF BTM LONG'L, SIDE LONG'L & SIDE FRAME

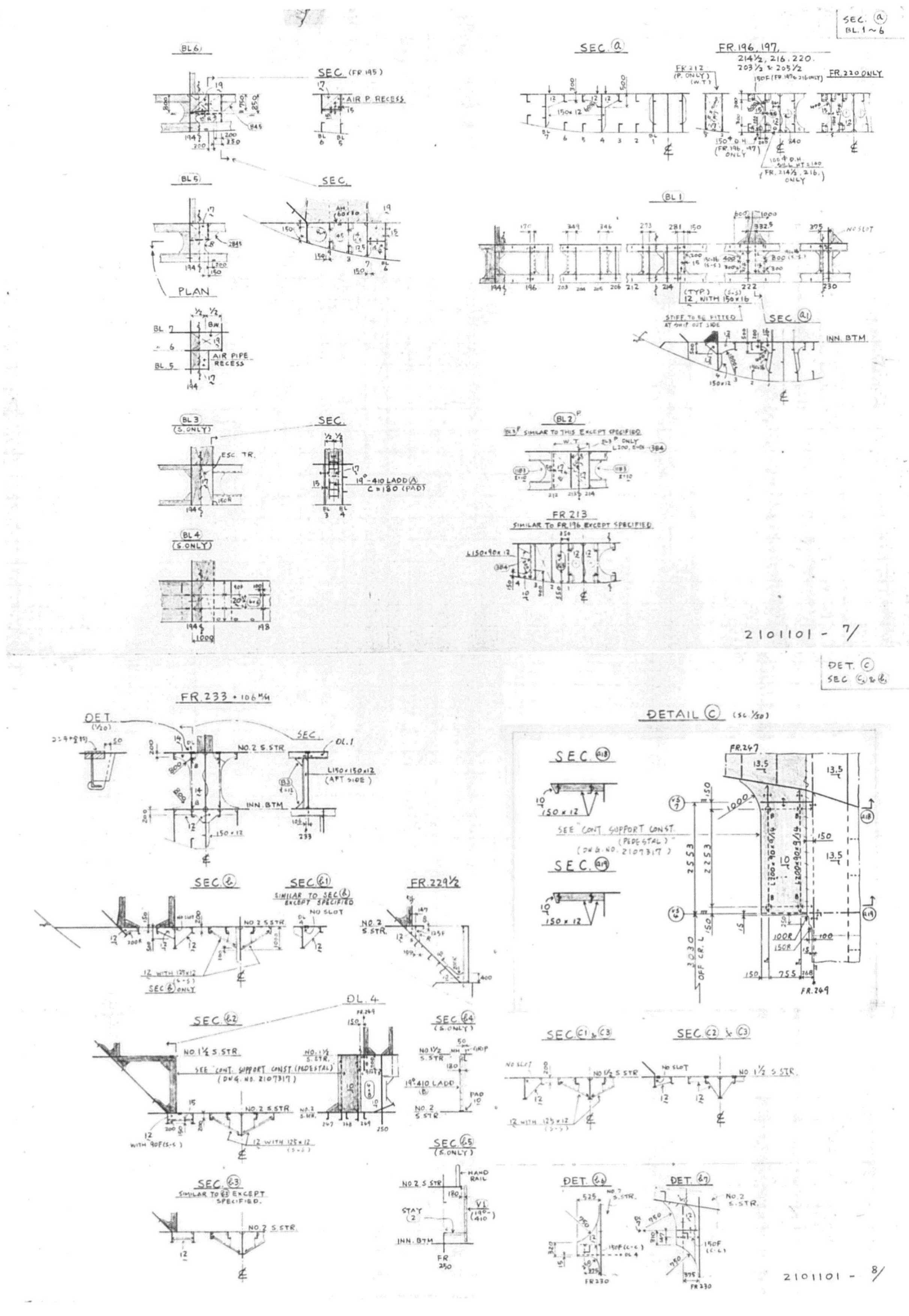


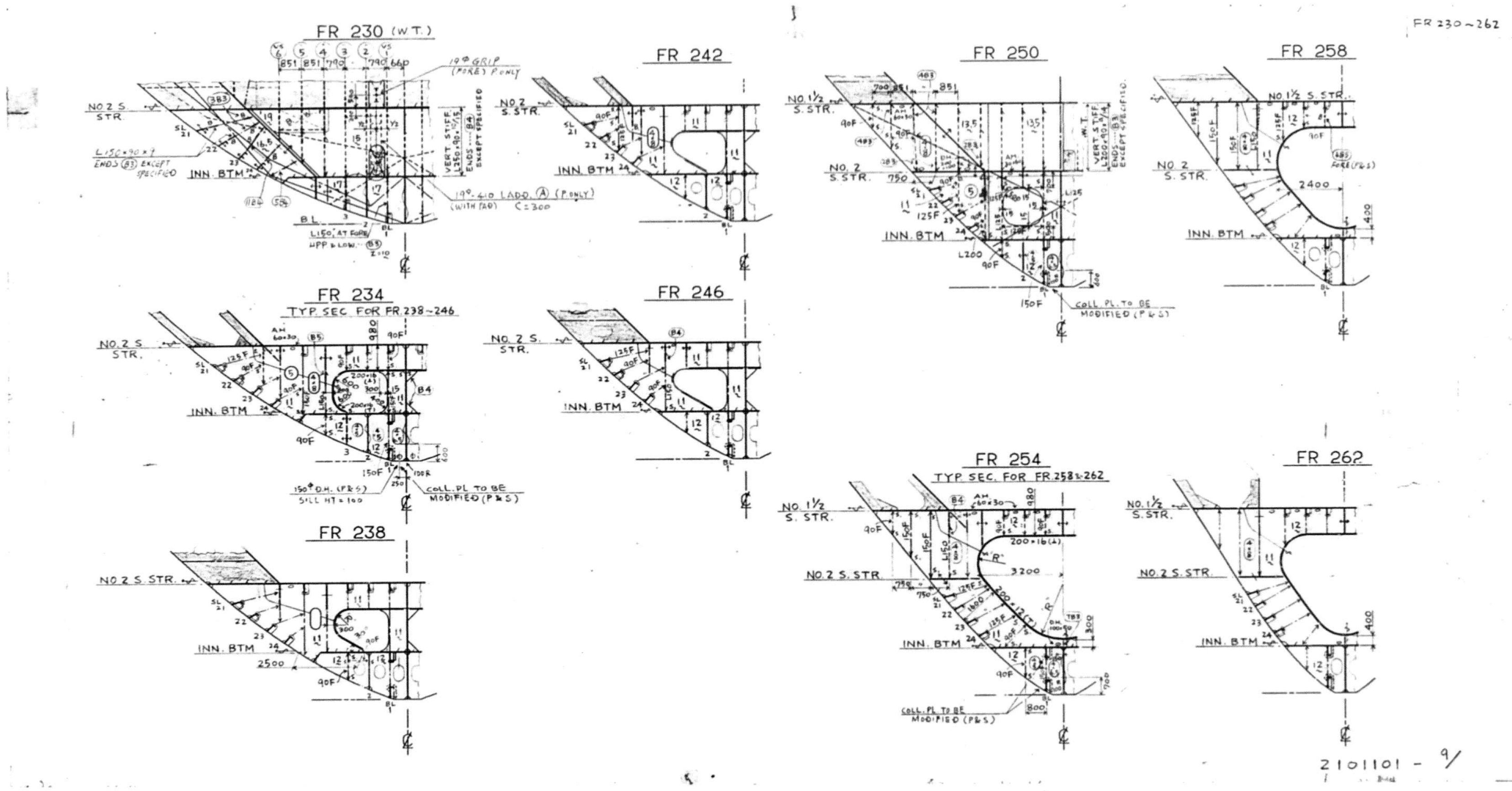

BL 17 SIDE GIRDER
NO 2 S STR
BL 7 SIDE GIRDER
SIMILAR TO BL 4 S. AIR EXCEPT SPECIFIED
BL 2 SIDE GIRDER
STIFF 125 X 11 FB
(BOTH ENDS SNIPPED)
BL 4 SIDE GIRDER
STIFF 125 X 11 FB EXCEPT SPECIFIED
(BOTH ENDS SNIPPED)
BKT (TYP)
DOCKING BKT (TYP)
CENTER GIRDER
SEC
NO 2 S STR
INN BTM
BTM SHELL
W.T.
2101101 - 5/



NO 1½ SIDE STR
6990 ABOVE B L
DK BEAM (ENDS BKT)
L200 × 90 × 9/14
L250 × 90 × 10/15
DET. ©
600 × 400 MH
DK LONG'L & CARL.
DK GIR
L300 × 90 × 11/16
250
255
260
265
6117
NO.2 SIDE STR.
4400 ABOVE B L
DK BEAM
OTHERS SIMILAR
D.H. 150φ (TYP.)
230
235
240
245
250
255
260
265
13737
L300 × 90 × 13/17
DL. 4
DL. 5
DL. 6
FR 251 ~ 265
NO.2 S. STR.

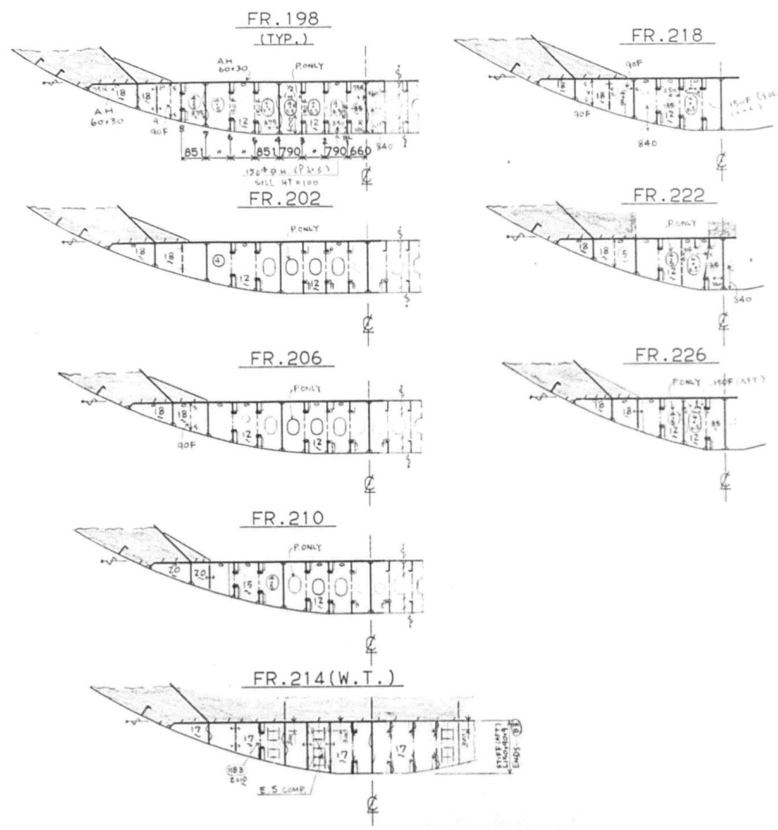
2101101 - 61


SEC. (a) BL.1~6
SEC (a)
FR.196, 197, 214½, 216, 220, 203½ & 205½
FR.220 ONLY
BL1
SEC (a1)
INN. BTM
BL6
SEC (FR.195)
AIR P. RECESS
BL5
SEC.
PLAN
AIR PIPE RECESS
BL3 (S.ONLY)
ESC. TR.
SEC.
19φ-410 LADD(A) C=180 (PAD)
BL4 (S.ONLY)
BL2
SIMILAR TO THIS EXCEPT SPECIFIED
FR.213
SIMILAR TO FR.196 EXCEPT SPECIFIED
2101101 - 7/
DET. (c) SEC (c)&(b)
FR.233 + 106
DET. (1/20)
SEC.
NO.2 S.STR
L150×150×12 (AFT SIDE)
INN. BTM
DETAIL (C) (SC 1/50)
SEC. (418)
SEE "CONT. SUPPORT CONST. (PEDESTAL)" (DWG. NO. 2107317)
SEC. (419)
FR.247
FR.249
SEC (b)
SEC (b1)
SIMILAR TO SEC (b) EXCEPT SPECIFIED
NO SLOT
FR.229½
SEC (b) ONLY
DL.4
SEC (b2)
NO.1½ S.STR.
SEE "CONT. SUPPORT CONST (PEDESTAL)" (DWG. NO. 2107317)
NO.2 S.STR.
SEC (b4) (S.ONLY)
19φ 410 LADD (B)
SEC (c1) & (c3)
SEC (c2) & (c3)
SEC (b5) (S.ONLY)
HAND RAIL
STAY (2)
INN. BTM
FR 250
SEC (b3)
SIMILAR TO (b) EXCEPT SPECIFIED.
DET (b6)
DET (b7)
FR230
2101101 - 8/


FR 230~262
FR 230 (W.T.)
FR 242
FR 250
FR 258
FR 234
TYP. SEC. FOR FR 238~246
FR 246
FR 238
FR 254
TYP. SEC. FOR FR 258~262
FR 262
NO. 2 S. STR.
NO. 1½ S. STR.
INN. BTM
COLL. PL TO BE MODIFIED (P&S)
2101101 - 9/

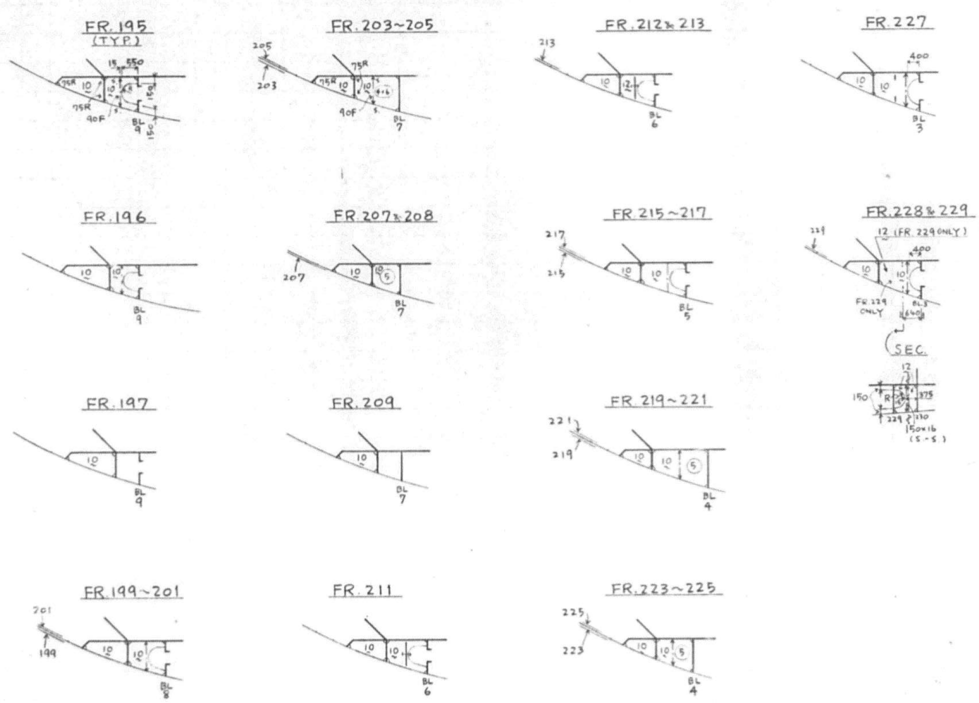
88

FR 198~226

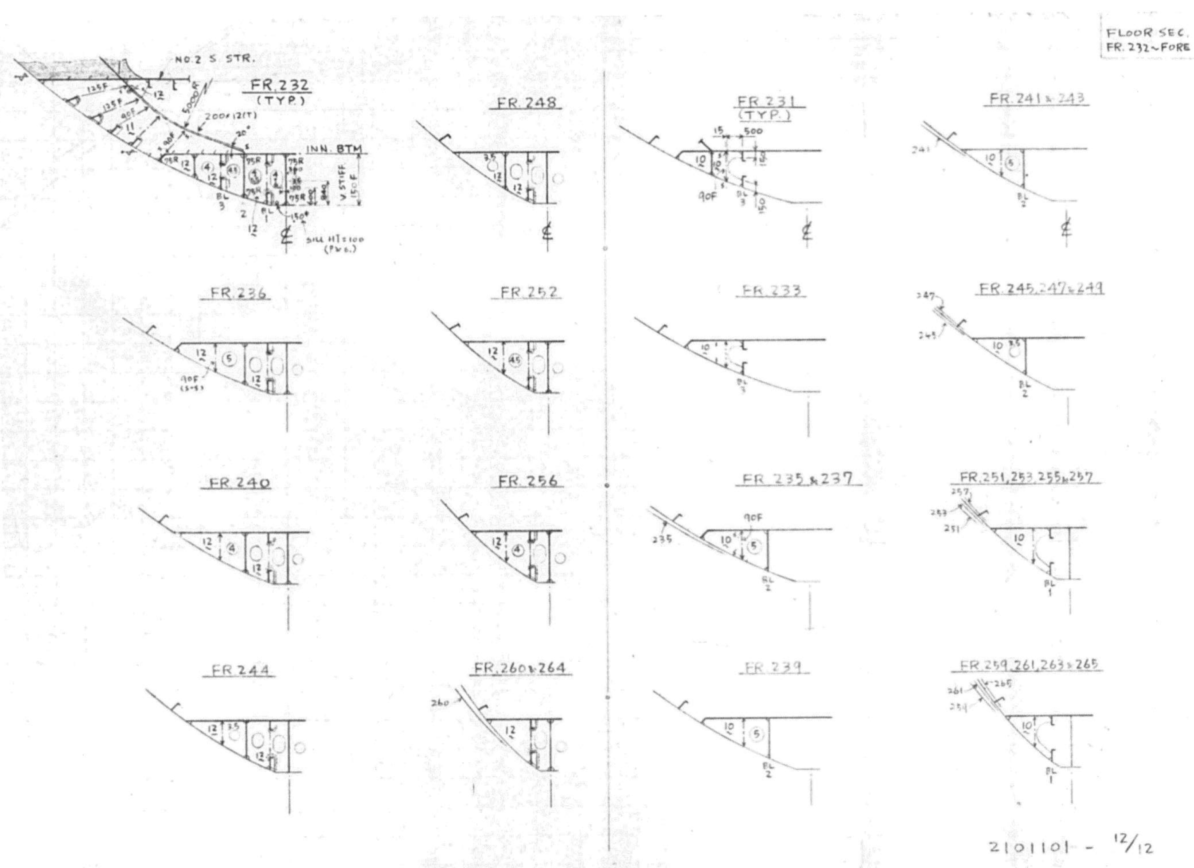


2101101 - 10/

SIDE BKT
FR. 195 ~ 229



2101101 - 11/


FLOOR SEC.
FR. 232~FORE
NO.2 S STR.
FR.232
(TYP.)
INN. BTM
V STIFF
FR.248
FR.231
(TYP.)
FR.241 & 243
FR.236
FR.252
FR.233
FR.245,247 & 249
FR.240
FR.256
FR.235 & 237
FR.251,253,255 & 257
FR.244
FR.260 & 264
FR.239
FR.259,261,263 & 265
2101101 - 12/12

PLAN RECORD BY MHI

ALT NO.	MARK	DESCRIPTION	DATE	BY
ORIG.	—	FOLLOWED MES ORIGINAL PLAN.	APR. 11. '85	
-10	—	Do. 1ST REVISED PLAN.	MAY 16 '85	
-11	—	Do. PARTLY REVISED PLAN No. A1	JUN. 11. '85	
-20	(A)	PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. ADDED BLOCK JOINTS ON SIDE SHELL, C.L. GIRDER, NO.1/2 SIDE GIRDER & TANK TOP. 2. ADDED SCALLOPS IN WAY OF BLOCK JOINT. 3. DELETED AIR OR DRAIN HOLES. 4. REARRANGED SEAM JOINTS ON TANK TOP. BASED DWG MES DWG No. 2101101-A (INCL. PARTLY REVISED PLAN NO. A1)	JUN. 25. '85	
-21		FOLLOWED MES PARTLY REVISED PLAN No. A2	JUL. 11. '85	
-22		Do. No. A3	AUG. 2. '85	
-23		Do. No. A4	NOV. 15. '85	
-F		PREPARED AS FINISHED PLAN FOR S.No. 1158	MAR. 11. '87	

2× A4 / A3 / A2 / SUM 4 — 4 SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION	
	APPROVED	CLASS ABS
	CHECKED	貨物倉二重底(前部) DOUBLE BOTTOM IN HOLD(FORE)
	DRAWN	
	SCALE	
	ORDER 01-15800 ~~01-16800~~ ~~01-10400~~	DRAWING NO. HS-10410-F / LYKES REF. NO. 110201

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

0-1

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	Mar. 7. '85	#FS/MES/289						

SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~	MITSUBISHI KOBE
~~NO.1323 DOCTOR LYKES~~	NO.1158 JAMES LYKES
~~NO.1324 ALMERIA LYKES~~	~~NO.1159 JOSEPH LYKES~~
~~NO.1325 TILLIE LYKES~~	~~NO.1164 SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER — SHIP'S NO. — SHIP'S NAME

STRUCTURE DESIGN SEC. — SEC. CHIEF — ASSIST. CHIEF — CHARGED ENG'R — STAFF

PARTLY REVISED PLAN NO. 4

貨物倉二重底(前部)
DOUBLE BOTTOM IN HOLD (FORE)

DATE	(TEL 3227)		
JOB NO. TS1323/24/25	SCALE 1/100	LYKES REF. NO. 110201	MITSUI DRAWING NO. 2101101-A4
JOBCLASSIF. NO. B01			

(3 SHEETS WITH COVER)

0-2

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		Prepared for approval of Owner and A.B.S.	FEB. 18. '85
A		REVISED IN ACCORDANCE WITH OWR'S REQUIREMENTS. REF: MES'S TLX NO. 313 (Feb. 15 '85), OWR'S TLX No. HCT068 (Feb. 16 '85) & RETURNED DWG (D.No. 2101101) BY OWR.	
		REVISED IN ACCORDANCE WITH DISCUSSION RESULT WITH OWR IN TAMANO. REF: DIS-MEMO OF APR. '85 (GENERAL & HULL OUTFITTING)	APR. 25 '85
		MISCELLANEOUS REVISION	
		REVISED IN ACCORDANCE WITH OWR'S COMMENTS ON APPROVED DWG.	May 20 '85
A1		MISCELLANEOUS REVISION	JUN.
A2		MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	
A3		MISCELLANEOUS REVISION	JUN 25 '85
A4		MISCELLANEOUS REVISION. (PROVIDED THE ACCESS HOLE AT NO 1½ SIDE STR.)	NOV 1 '85

DWG. NO. 2101101-~~A4~~-1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備考:-

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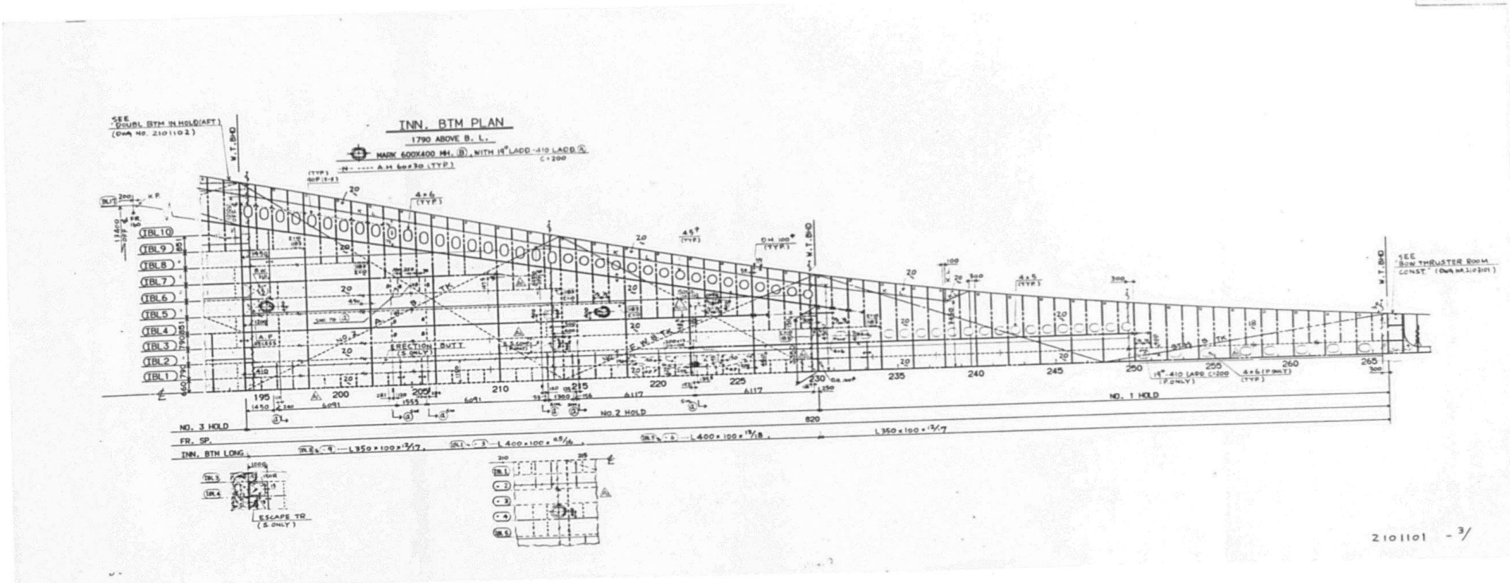
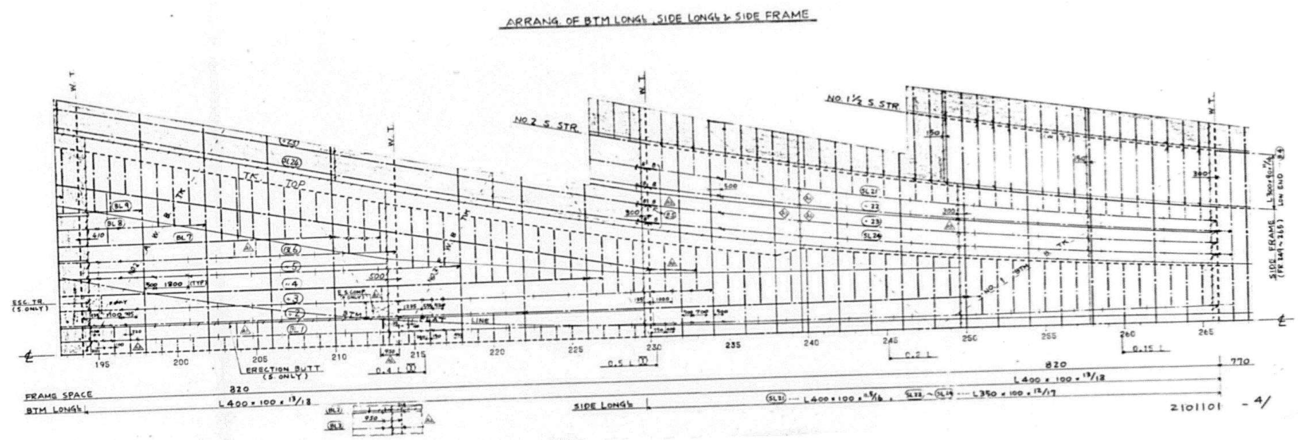
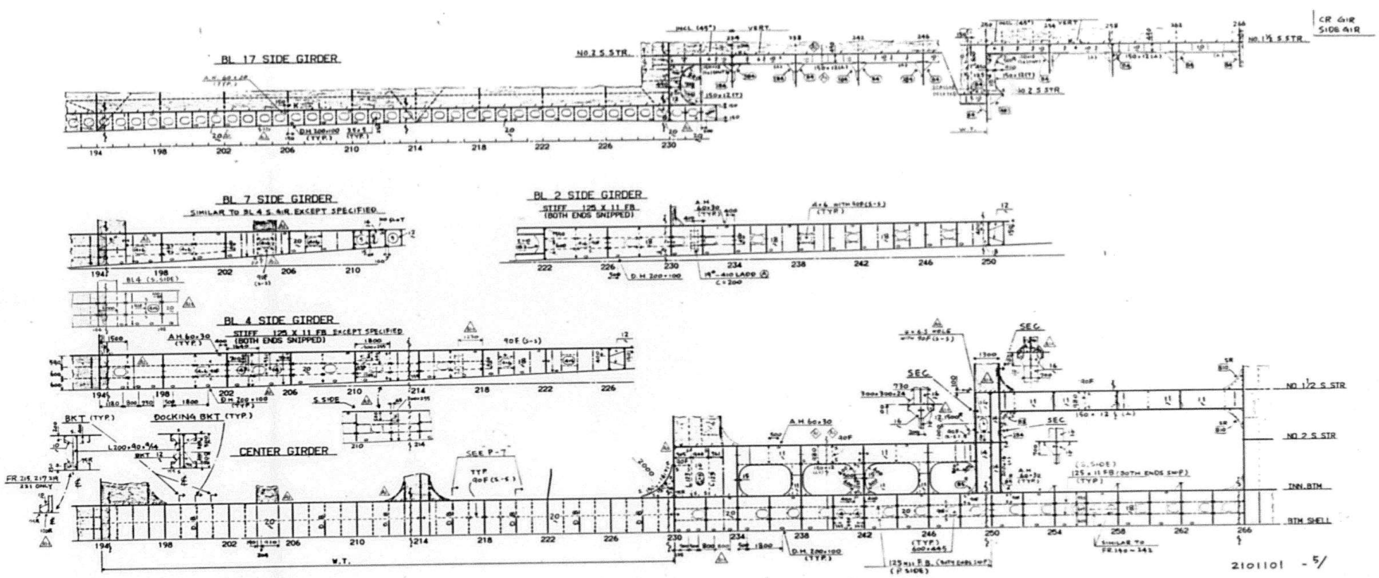
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図(図番2100811)」を参照のこと。
4. 溶接脚長については，特記の他は「溶接脚長表(図番2100832)」を参照のこと。

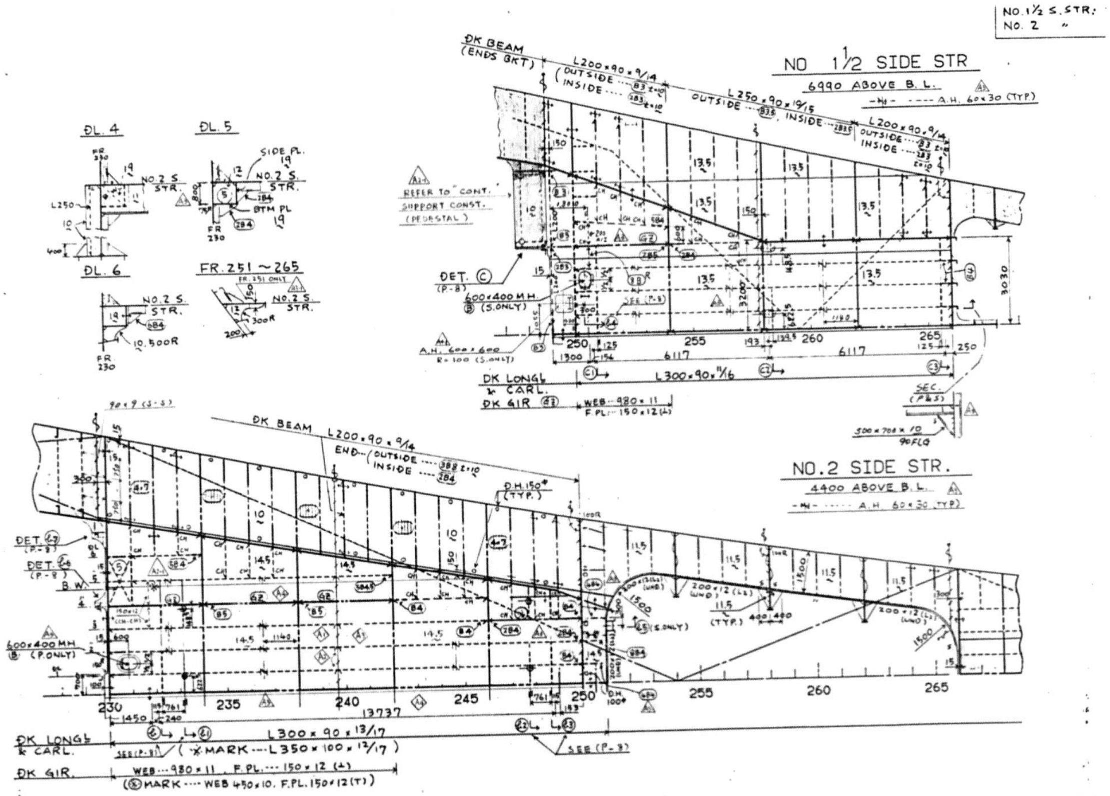
2101101-A-2/


INN. BTM PLAN
1790 ABOVE B. L.
NO. 3 HOLD
NO. 2 HOLD
NO. 1 HOLD
FR. SP.
INN. BTM LONG.
ERECTION BUTT
ESCAPE TR
2101101 - 3/

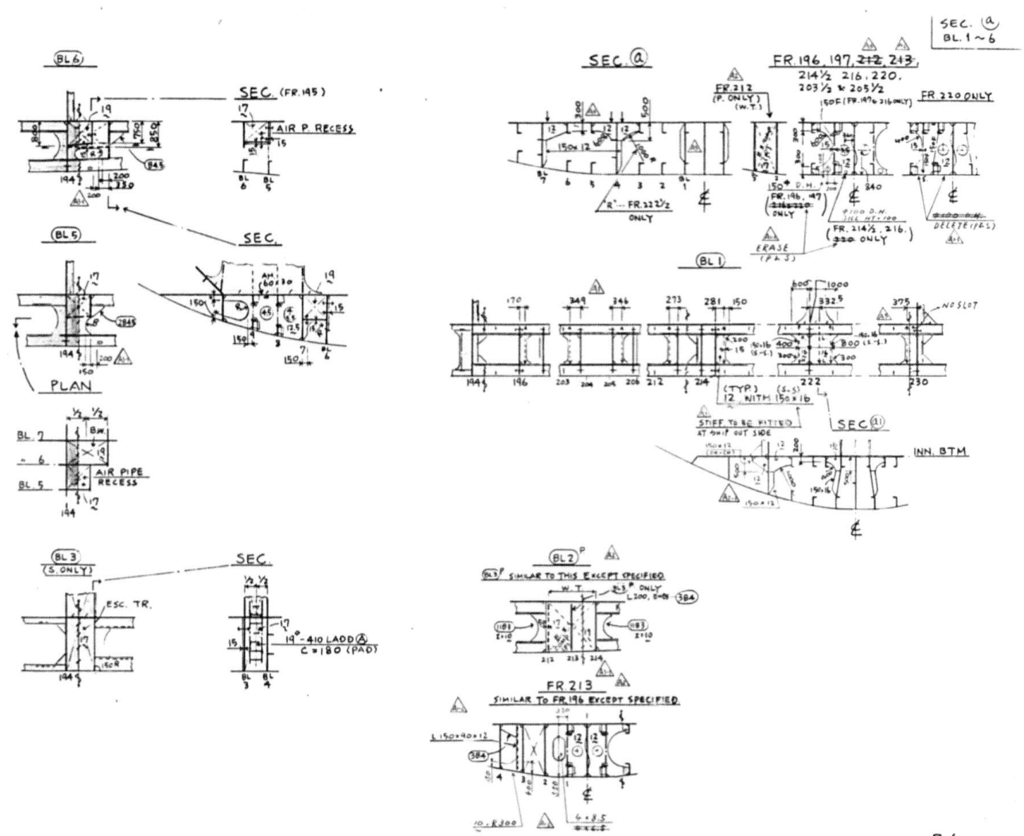
ARRANG. OF
BTM LONGL
SIDE
SIDE FRAME




BL 17 SIDE GIRDER
BL 7 SIDE GIRDER
BL 2 SIDE GIRDER
BL 4 SIDE GIRDER
CENTER GIRDER
2101101 - 5/

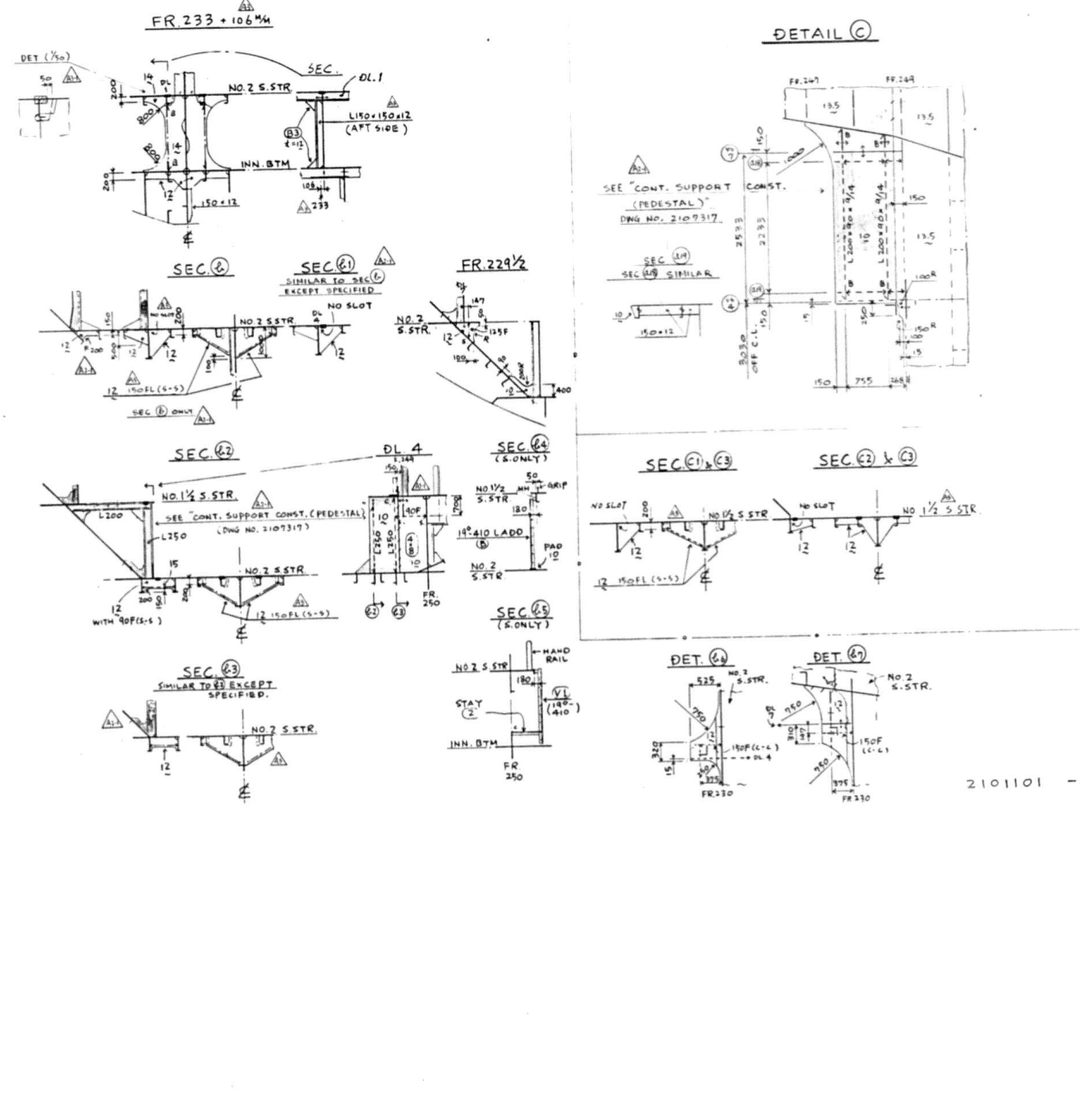


210101 - 6/

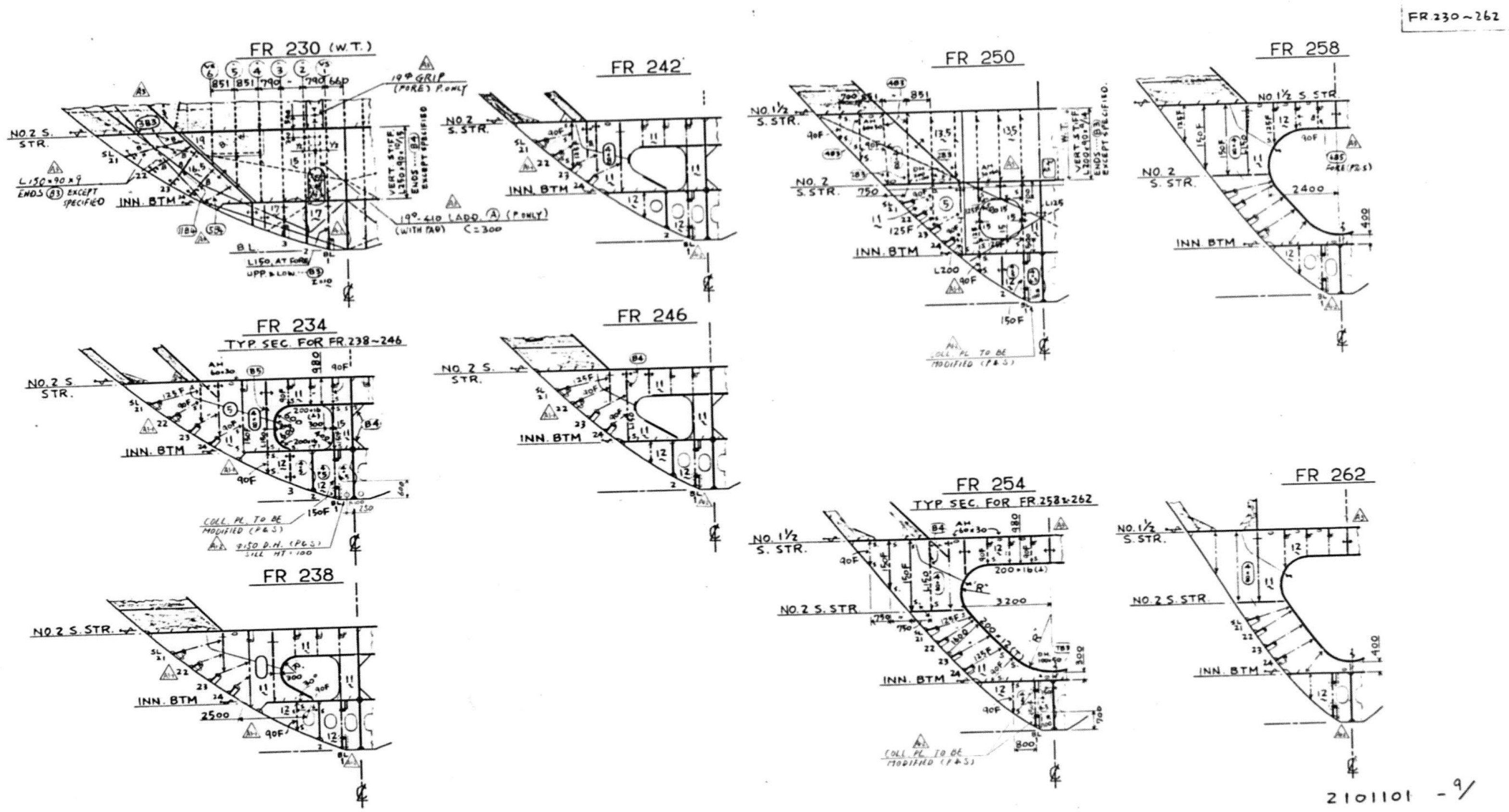


210101 - 7/

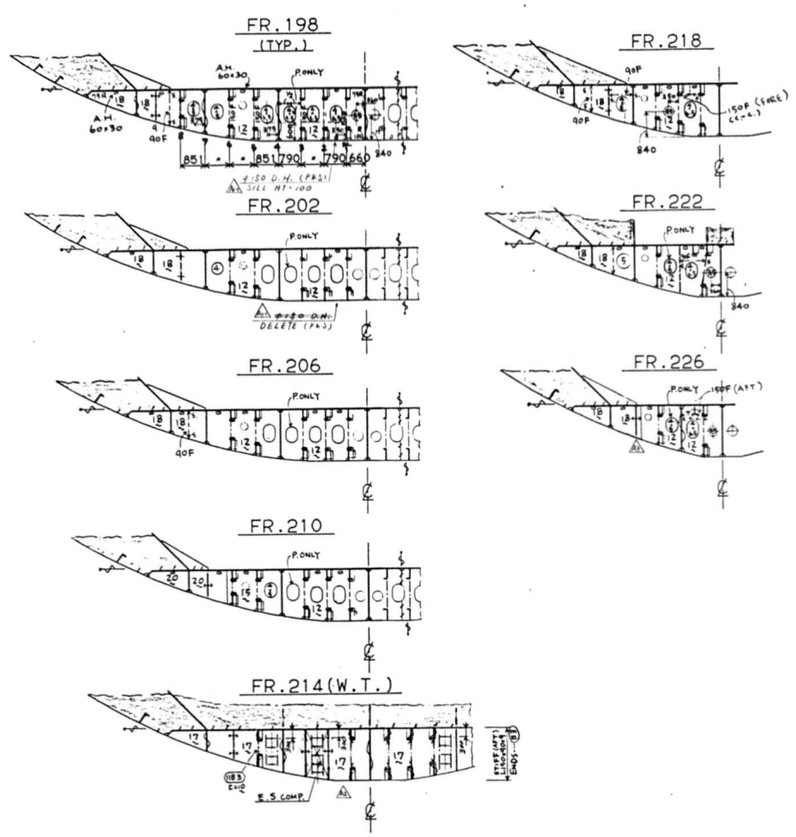
DET. C
SEC C1 & C2



2101101 - 8/

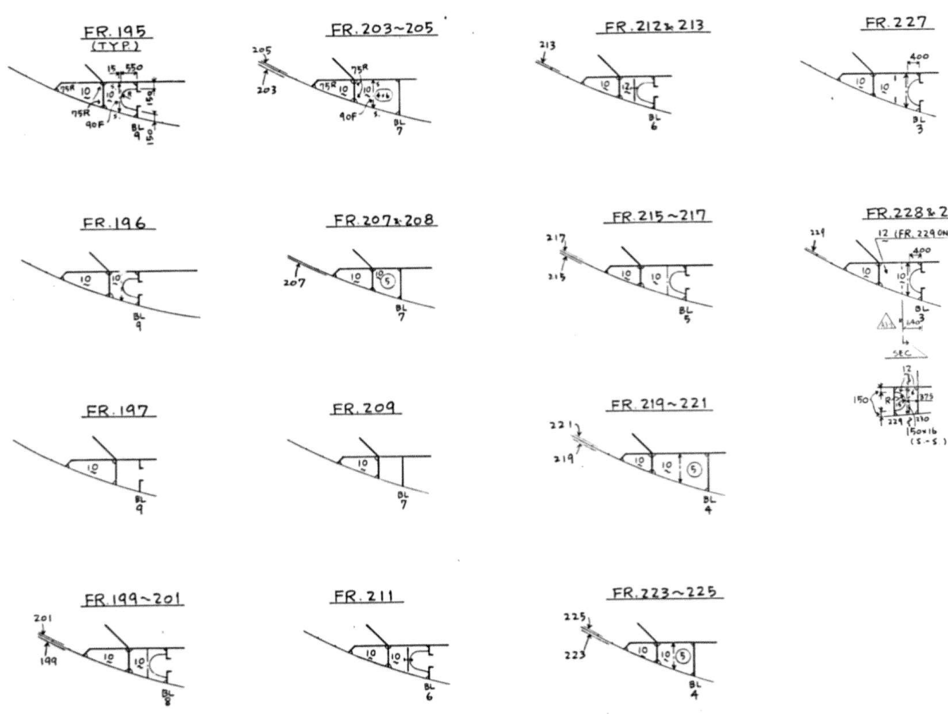

FR 230~262
FR 230 (W.T.)
NO.2 S. STR.
INN. BTM
FR 242
NO.2 S.STR.
INN. BTM
FR 250
NO.1½ S.STR.
NO.2 S.STR.
INN. BTM
FR 258
NO 1½ S.STR
NO.2 S.STR.
INN. BTM
FR 234
TYP. SEC. FOR FR.238~246
NO.2 S STR.
INN. BTM
FR 246
NO.2 S STR.
INN. BTM
FR 238
NO.2 S.STR.
INN. BTM
FR 254
TYP. SEC. FOR FR.258~262
NO.1½ S.STR.
NO.2 S.STR
INN. BTM
FR 262
NO.1½ S.STR.
NO.2 S.STR
INN. BTM
2101101 -9/

FR.198~226



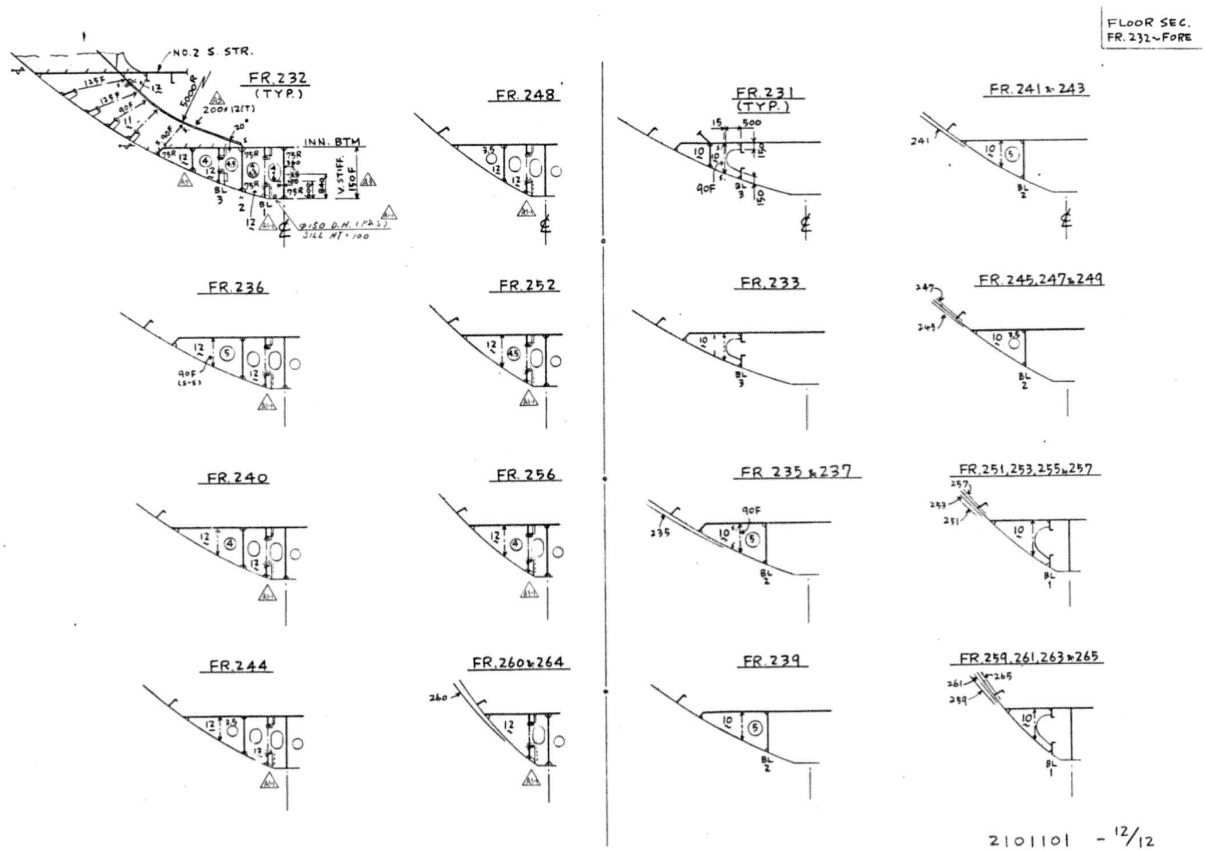
2101101 -10/

SIDE BKT
FR.195~229



2101101 -11/

98



2101101 - 12/12

APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	27MAR'86	OFT%/MES-231			2JUL'86	7-8-2		
1ST PART REV	16MAY'86	OFT%/MES-001			11AUG'86	7-8-2		
2ND PART REV	9JUL'86	TAM/11			17SEP'86	7-8-2		
3RD PART REV	7AUG'86	TAM/37			17SEP'86	7-8-2		

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER
STRUCTURE DESIGN SEC.

SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

貨物倉内二重底（後部）

DBL. BTM. IN HOLD (AFT)

JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 110202 — MITSUI DRAWING NO. 2101102

(16 SHEETS WITH COVER)

PLAN RECORD			
ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV 28.'86

DWG. NO. 2101102-1/

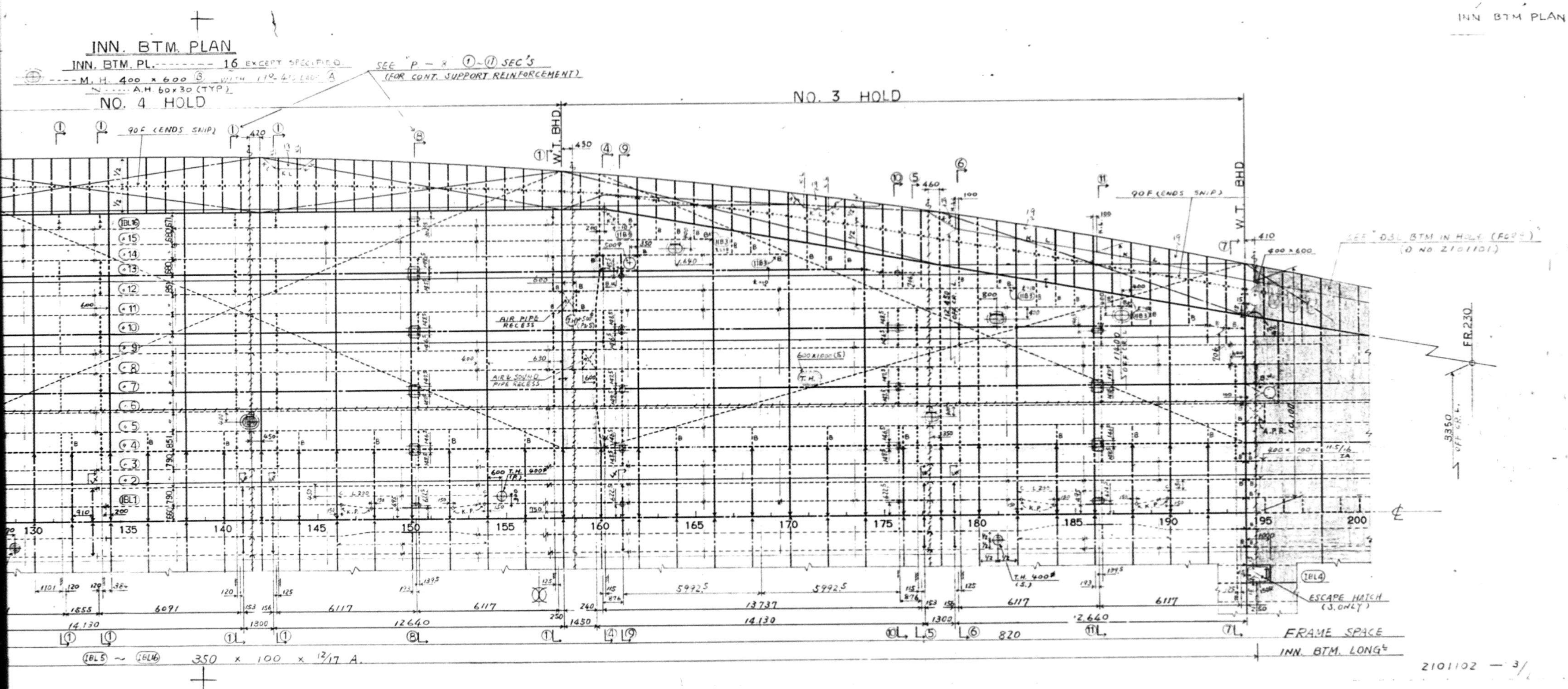
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備考:-

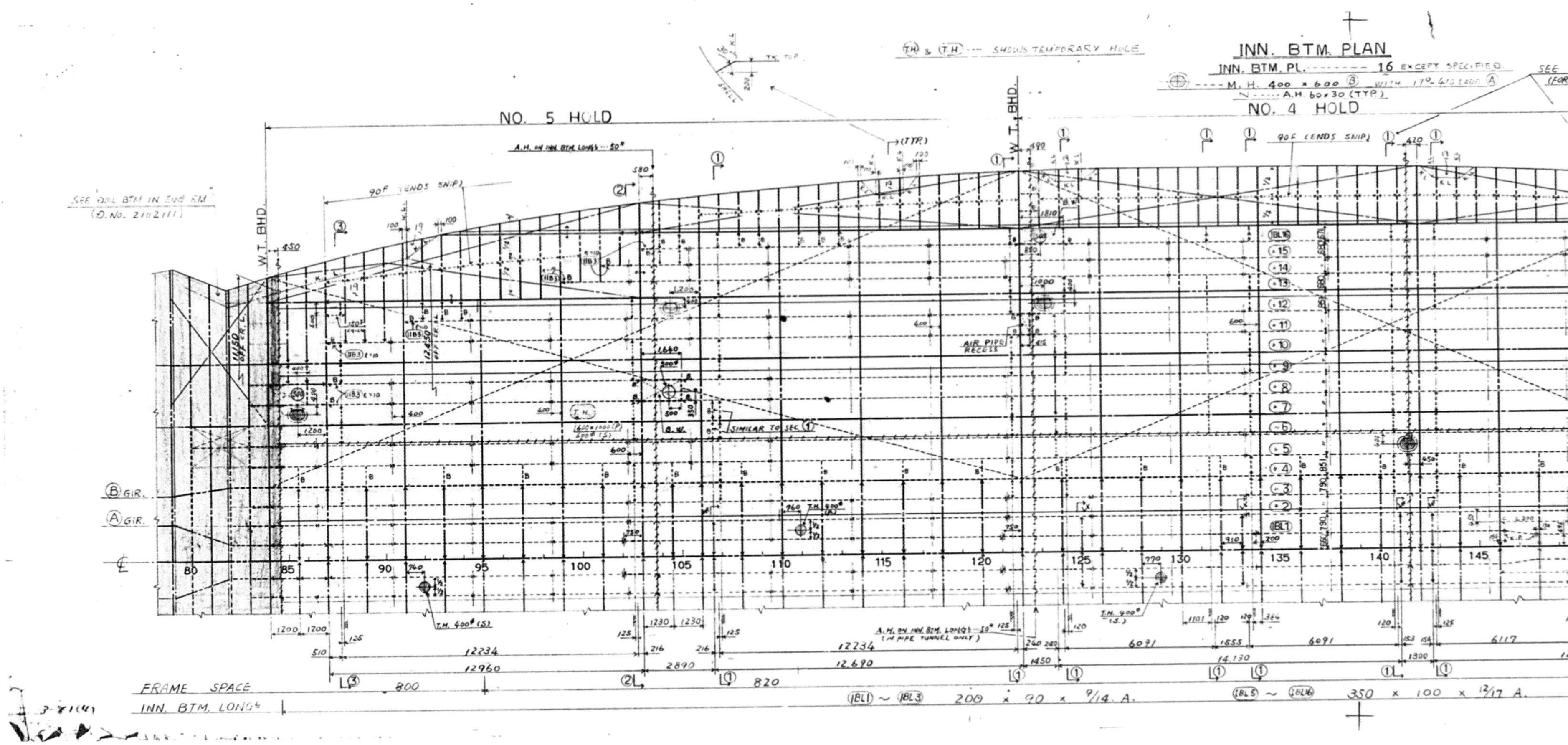
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は "構造詳細図（図番2100811）"を参照のこと。
4. 溶接脚長については，特記の他は "溶接脚長表（図番2100832）"を参照のこと。

2101102-2/

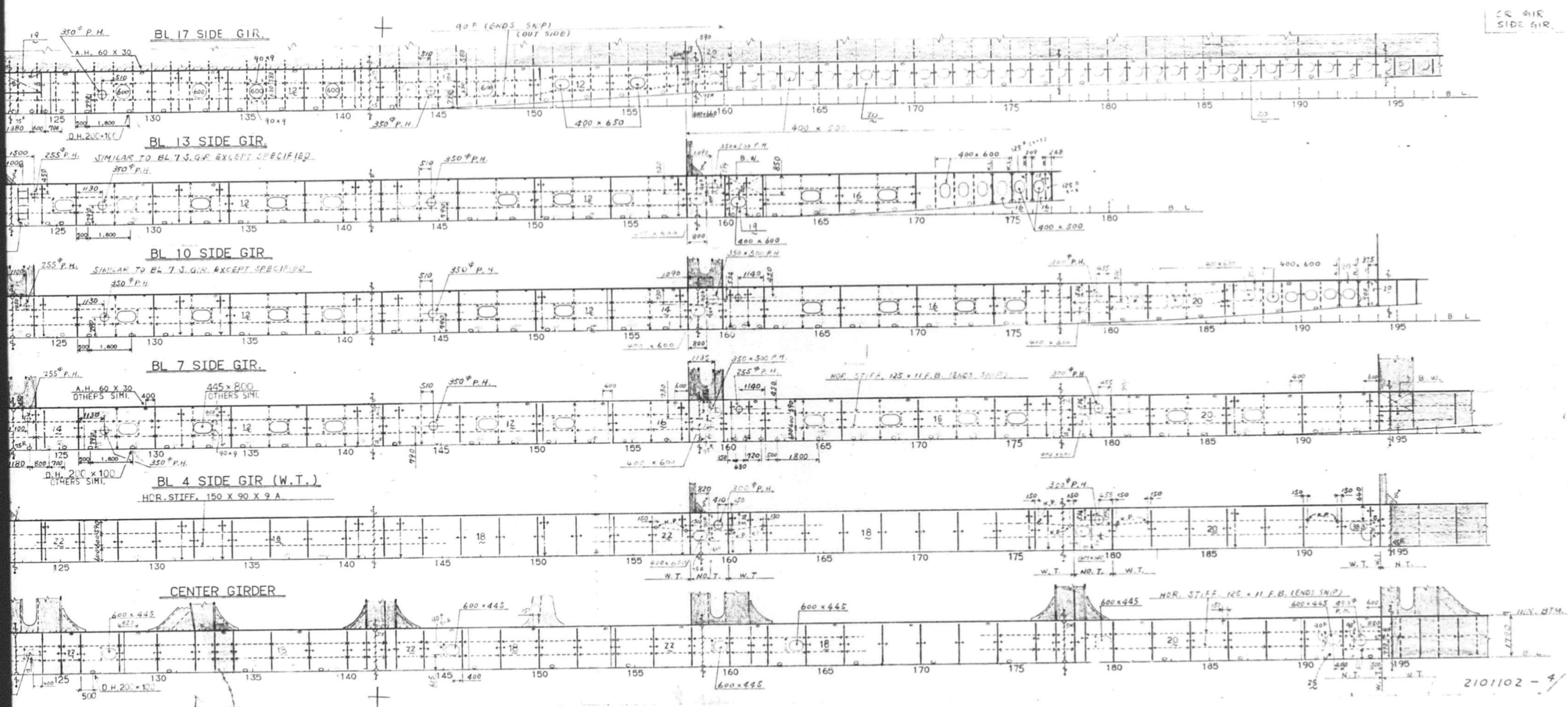


INN BTM PLAN

1/2 101

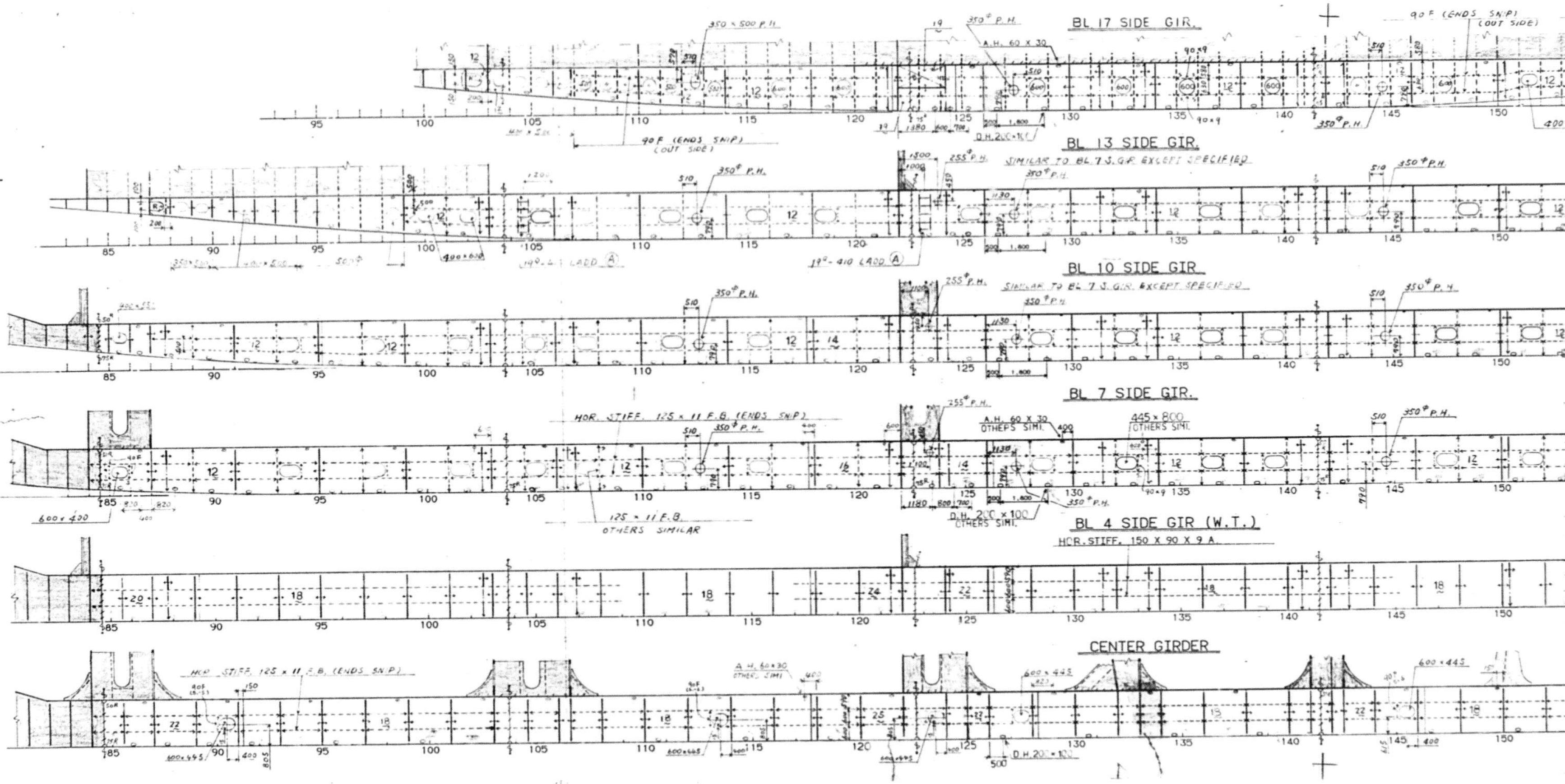


INN. BTM. PLAN
INN. BTM. PL. -------- 16 EXCEPT SPECIFIED
NO. 5 HOLD
NO. 4 HOLD
W.T. BHD.
SHOWS TEMPORARY HOLE
AIR PIPE RECESS
SIMILAR TO SEC
B GIR.
A GIR.
FRAME SPACE
INN. BTM. LONGL
200 x 90 x 9/14 A.
350 x 100 x 12/17 A.



BL 17 SIDE GIR.
BL 13 SIDE GIR.
BL 10 SIDE GIR
BL 7 SIDE GIR.
BL 4 SIDE GIR (W.T.)
HOR. STIFF. 150 X 90 X 9 A.
CENTER GIRDER
2101102 - 4

1/2 103

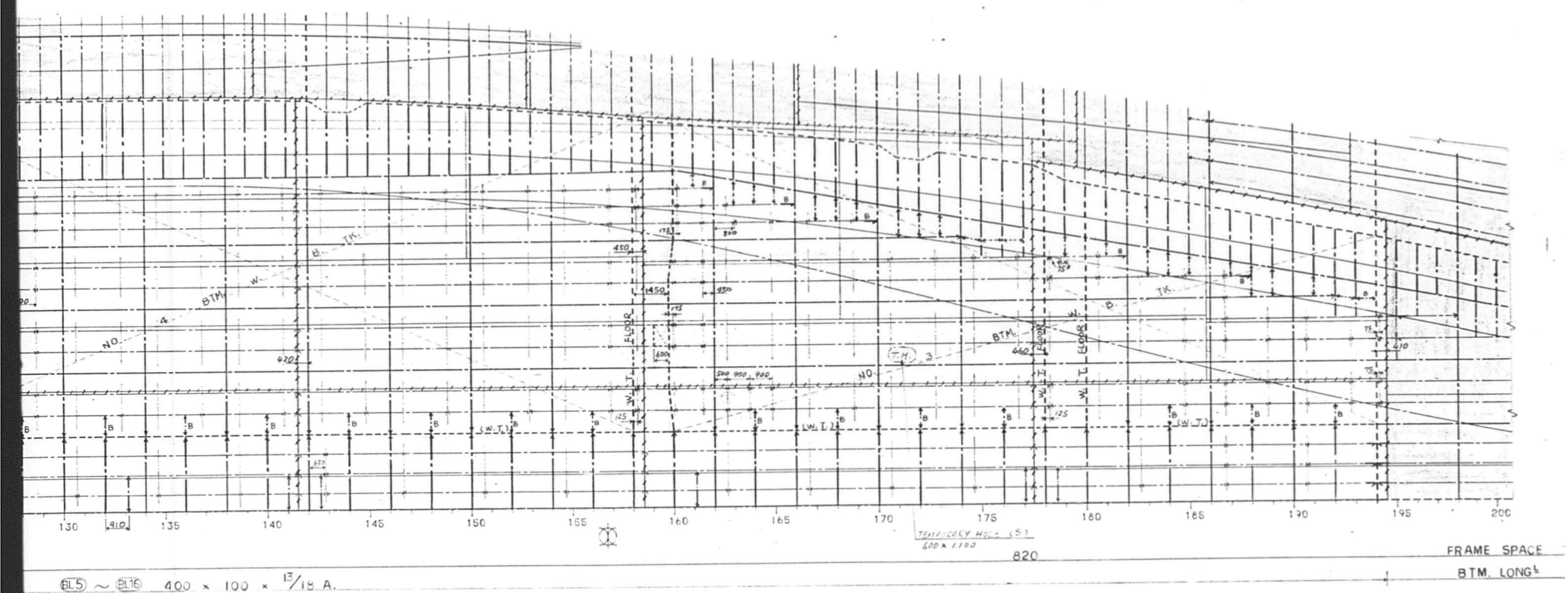


BL 17 SIDE GIR.
BL 13 SIDE GIR.
BL 10 SIDE GIR.
BL 7 SIDE GIR.
BL 4 SIDE GIR (W.T.)
HOR. STIFF. 150 X 90 X 9 A.
CENTER GIRDER

2/2 104

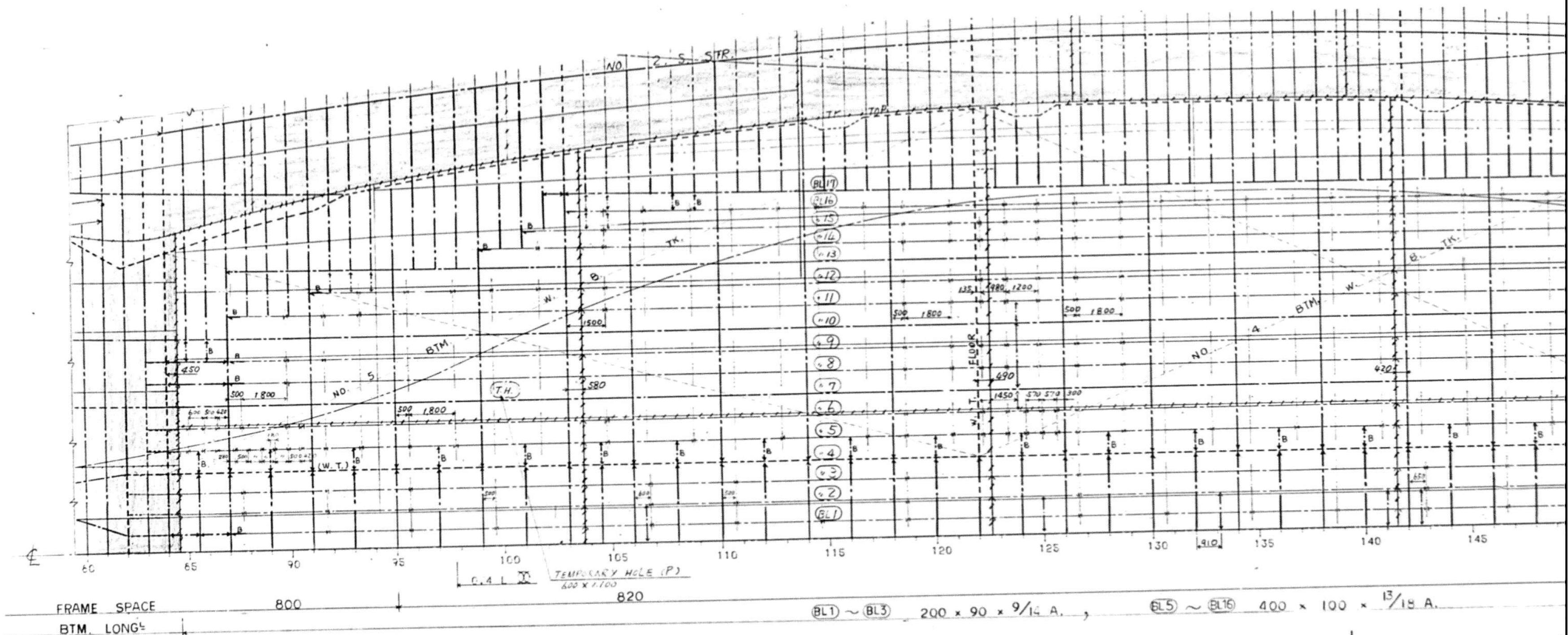
G. OF BTM. LONG^L

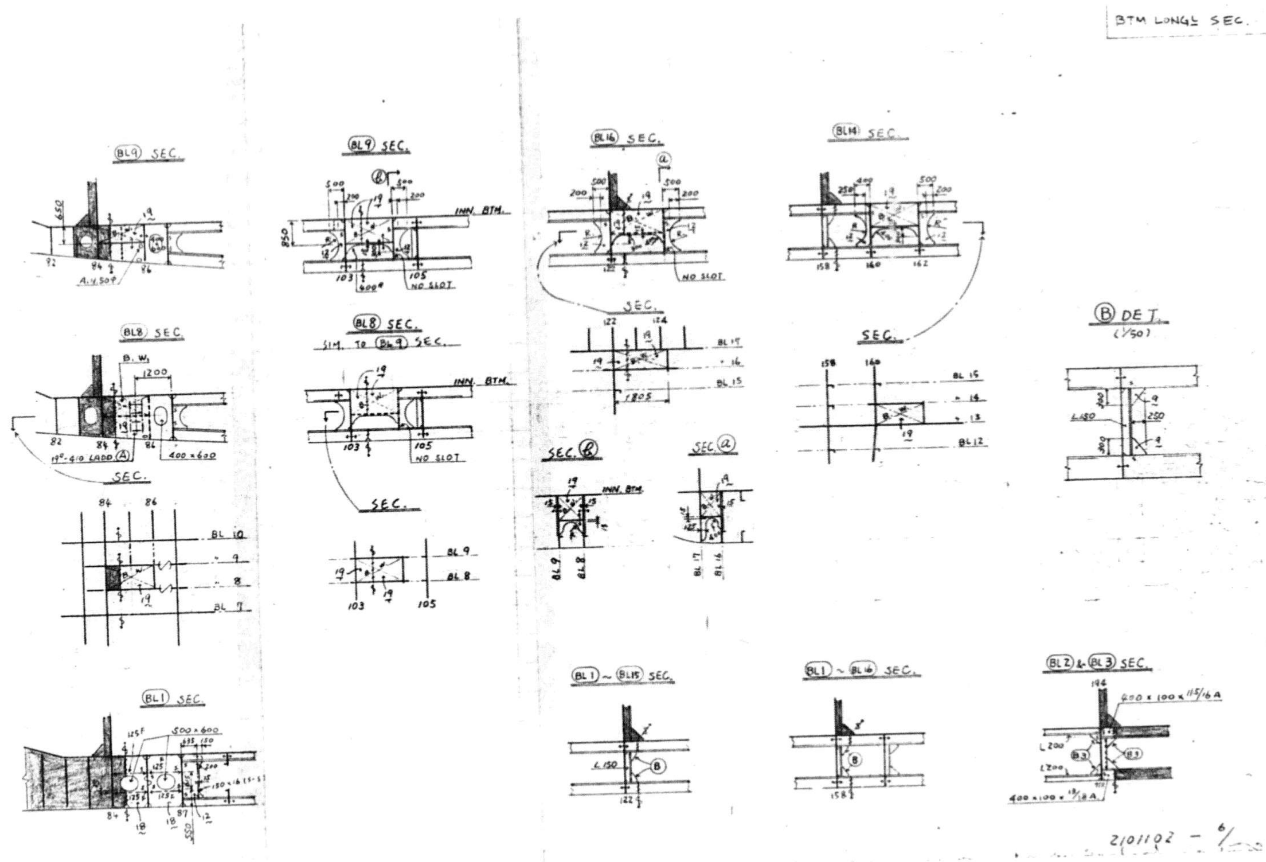
ARR. OF BTM LONG^L



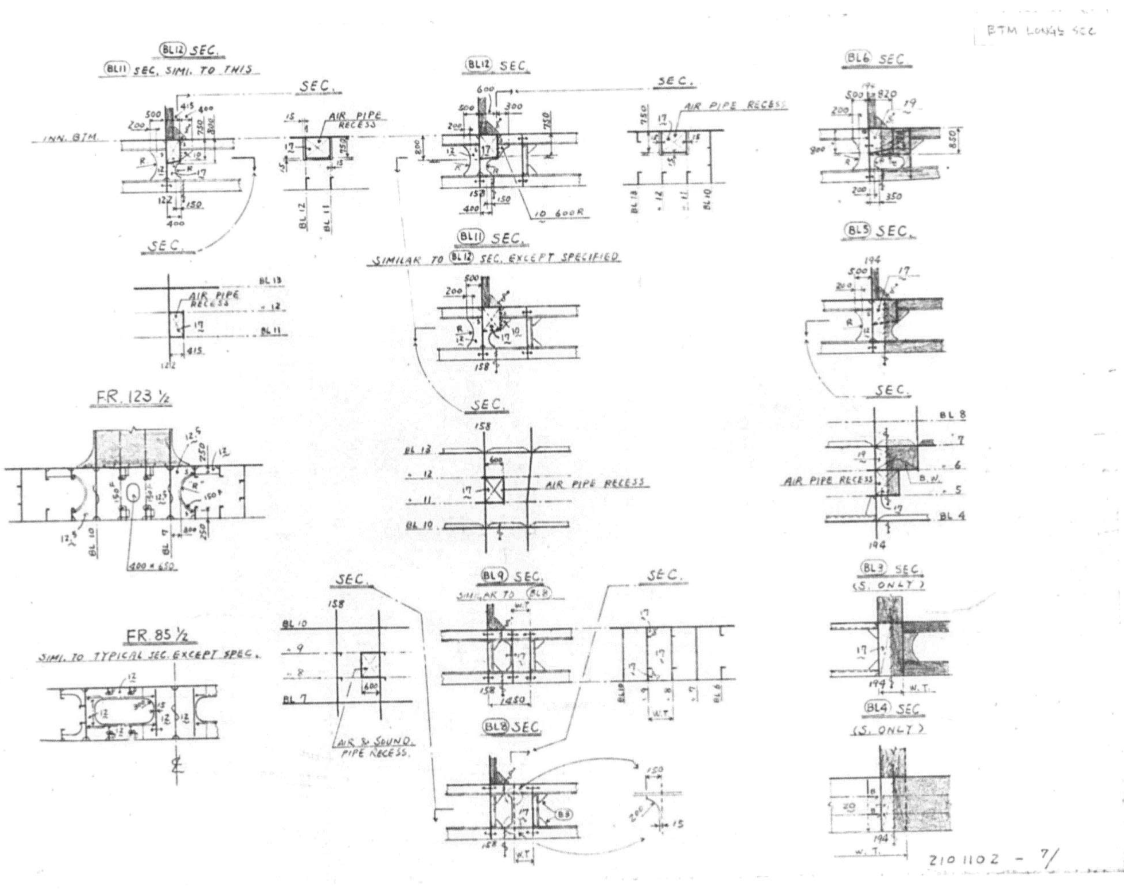
2101102 - 5/

ARRANG. OF BTM. LONGL



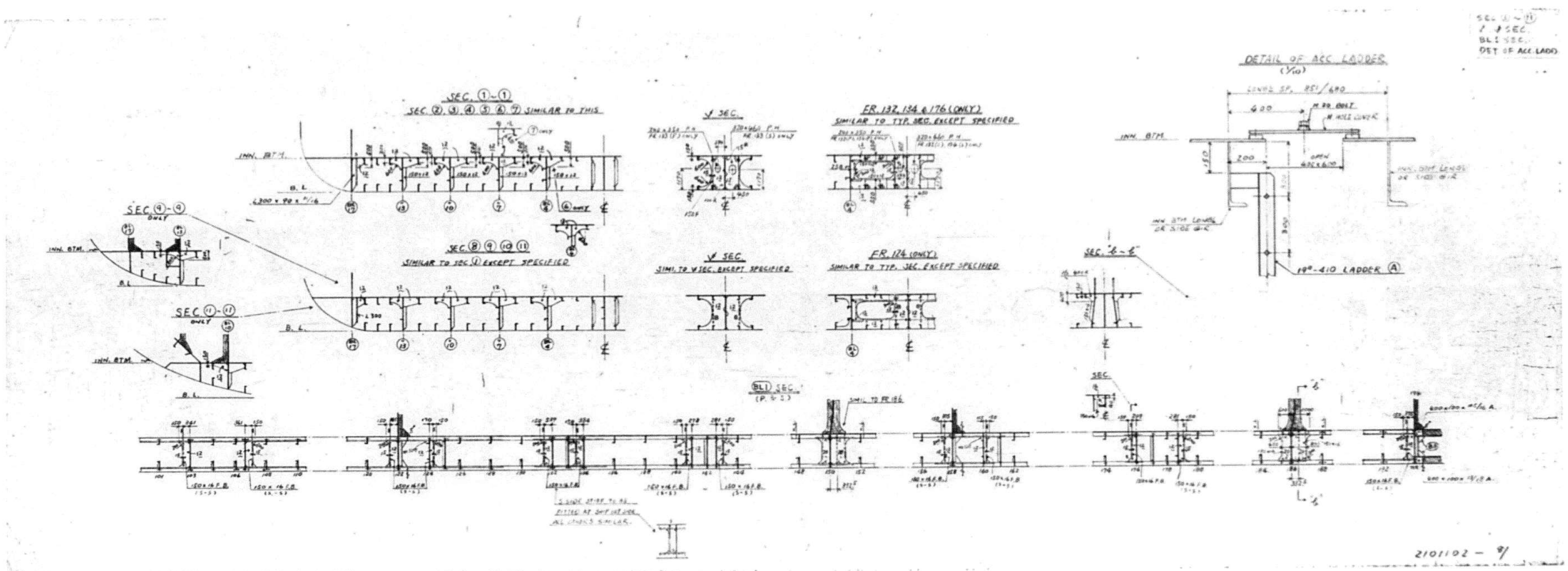

BTM LONGL SEC.
BL9 SEC.
BL9 SEC.
BL16 SEC.
BL14 SEC.
BL8 SEC.
BL8 SEC.
SIM. TO BL9 SEC.
INN. BTM.
NO SLOT
SEC.
B DET.
(1/50)
SEC. B
SEC. a
BL1 SEC.
BL1 ~ BL15 SEC.
BL1 ~ BL16 SEC.
BL2 & BL3 SEC.
400 × 100 × 11.5/16 A
2101102 - 6/

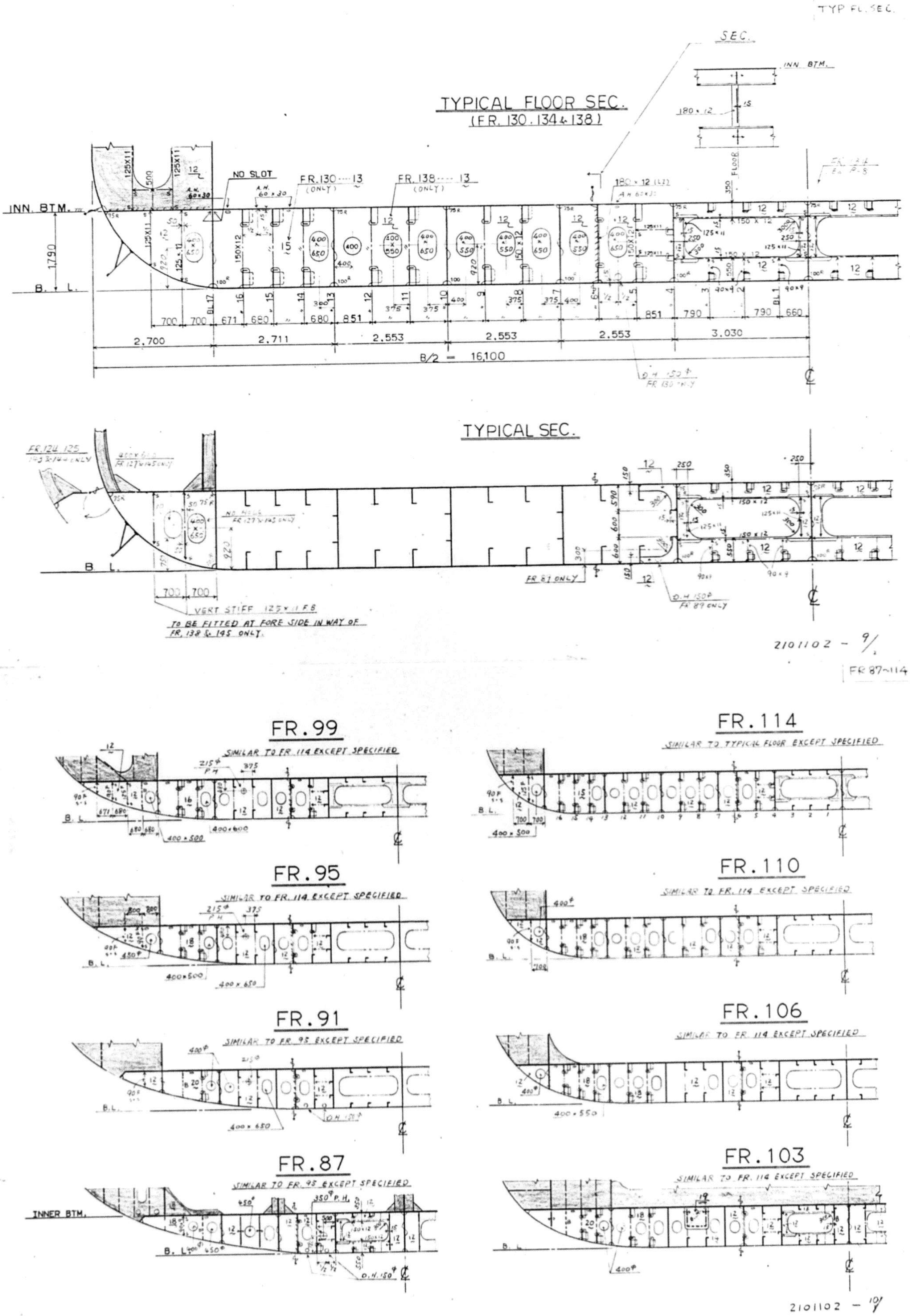
107



BTM LONGL SEC
BL12 SEC.
BL11 SEC. SIMI. TO THIS
SEC.
AIR PIPE RECESS
BL12 SEC.
SEC.
AIR PIPE RECESS
BL6 SEC.
BL11 SEC.
SIMILAR TO BL12 SEC. EXCEPT SPECIFIED
BL5 SEC.
FR. 123 1/2
SEC.
AIR PIPE RECESS
FR. 85 1/2
SIMI. TO TYPICAL SEC. EXCEPT SPEC.
AIR & SOUND PIPE RECESS.
BL9 SEC.
BL8 SEC.
BL3 SEC.
(S. ONLY)
BL4 SEC.
(S. ONLY)
210 1102 - 7/

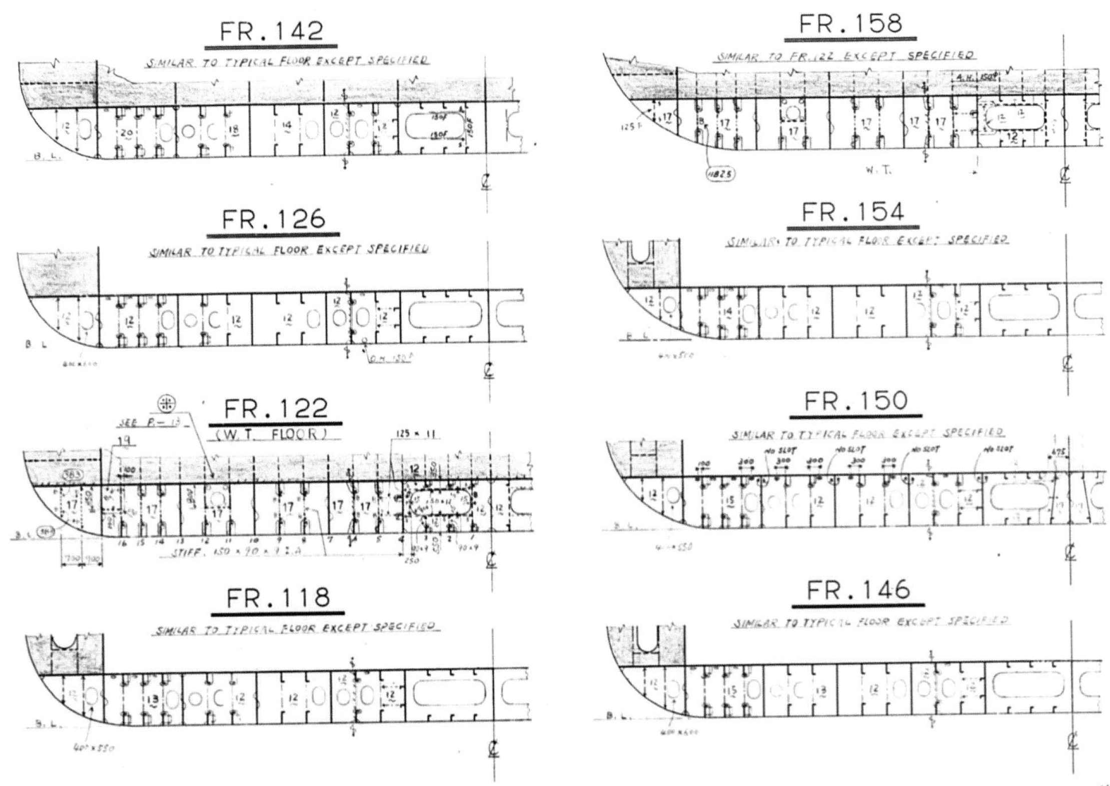
108


SEC. ①-①
SEC ②, ③, ④, ⑤, ⑥, ⑦ SIMILAR TO THIS
SEC. ⑧ ⑨ ⑩ ⑪
SIMILAR TO SEC ① EXCEPT SPECIFIED
SEC. ⑨-⑨
SEC. ⑪-⑪
FR. 132, 134 & 176 (ONLY)
SIMILAR TO TYP. SEC. EXCEPT SPECIFIED
FR. 124 (ONLY)
SIMILAR TO TYP. SEC. EXCEPT SPECIFIED
SIMI. TO ℄ SEC. EXCEPT SPECIFIED
DETAIL OF ACC. LADDER
INN. BTM.
LADDER Ⓐ
2101102 - 9/


TYP FL. SEC.
SEC.
INN. BTM.
180 × 12
FLOOR
TYPICAL FLOOR SEC.
(FR. 130 . 134 & 138)
NO SLOT
FR. 130 ···· 13 (ONLY)
FR. 138 ···· 13 (ONLY)
INN. BTM.
B. L.
B/2 = 16,100
TYPICAL SEC.
VERT STIFF 125 × 11 F.B
TO BE FITTED AT FORE SIDE IN WAY OF
FR. 138 & 145 ONLY.
2101102 - 9/
FR 87~114
FR. 99
SIMILAR TO FR. 114 EXCEPT SPECIFIED
FR. 114
SIMILAR TO TYPICAL FLOOR EXCEPT SPECIFIED
FR. 95
SIMILAR TO FR. 114 EXCEPT SPECIFIED
FR. 110
SIMILAR TO FR. 114 EXCEPT SPECIFIED
FR. 91
SIMILAR TO FR. 95 EXCEPT SPECIFIED
FR. 106
SIMILAR TO FR. 114 EXCEPT SPECIFIED
FR. 87
SIMILAR TO FR. 95 EXCEPT SPECIFIED
INNER BTM.
FR. 103
SIMILAR TO FR. 114 EXCEPT SPECIFIED
2101102 - 10/

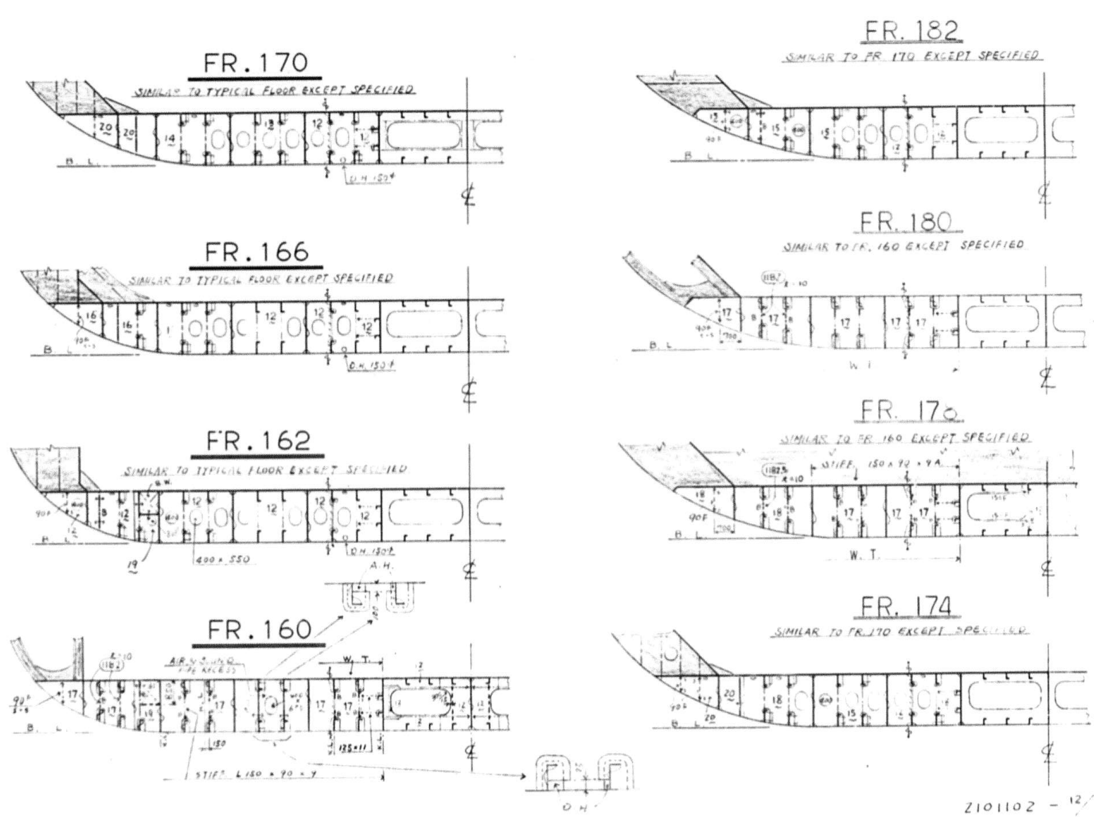
110

FR 118 ~ 158



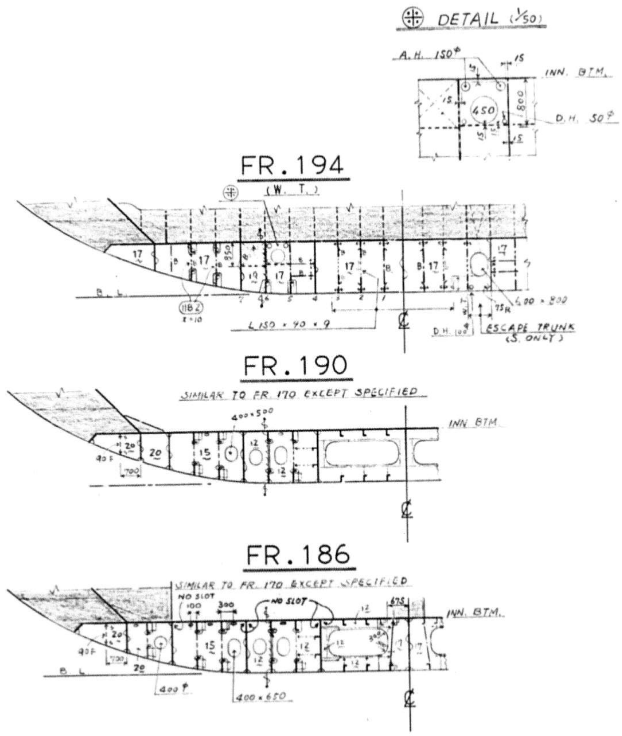
Z101102 - 11/

FR 160 ~ 182



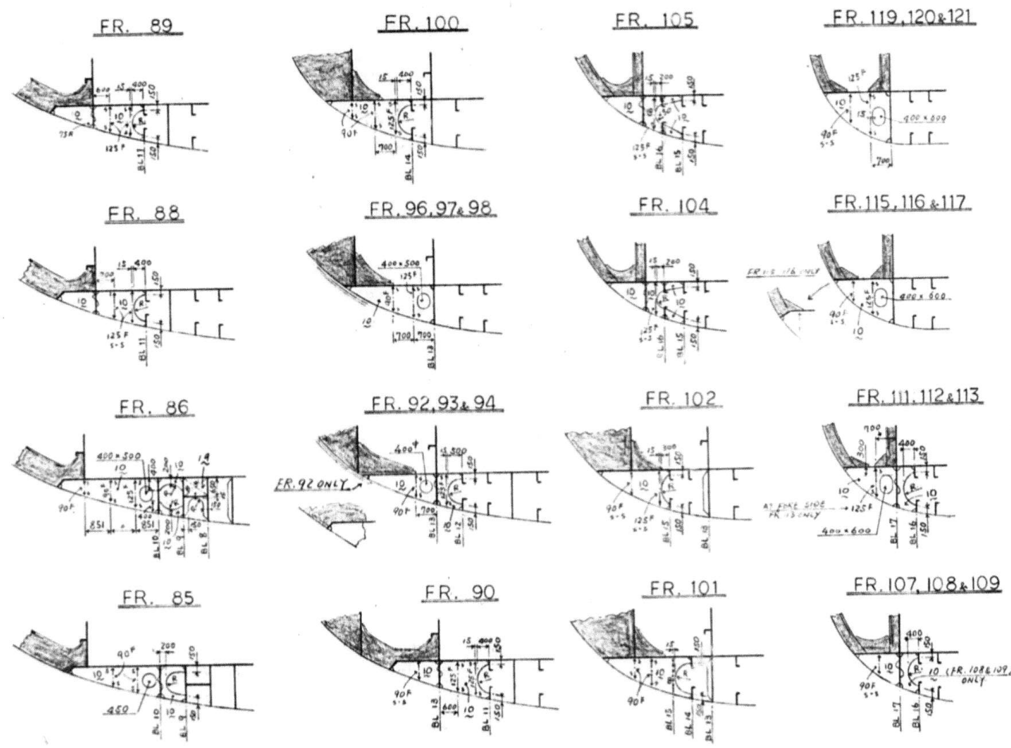
Z101102 - 12/

FR 186-194

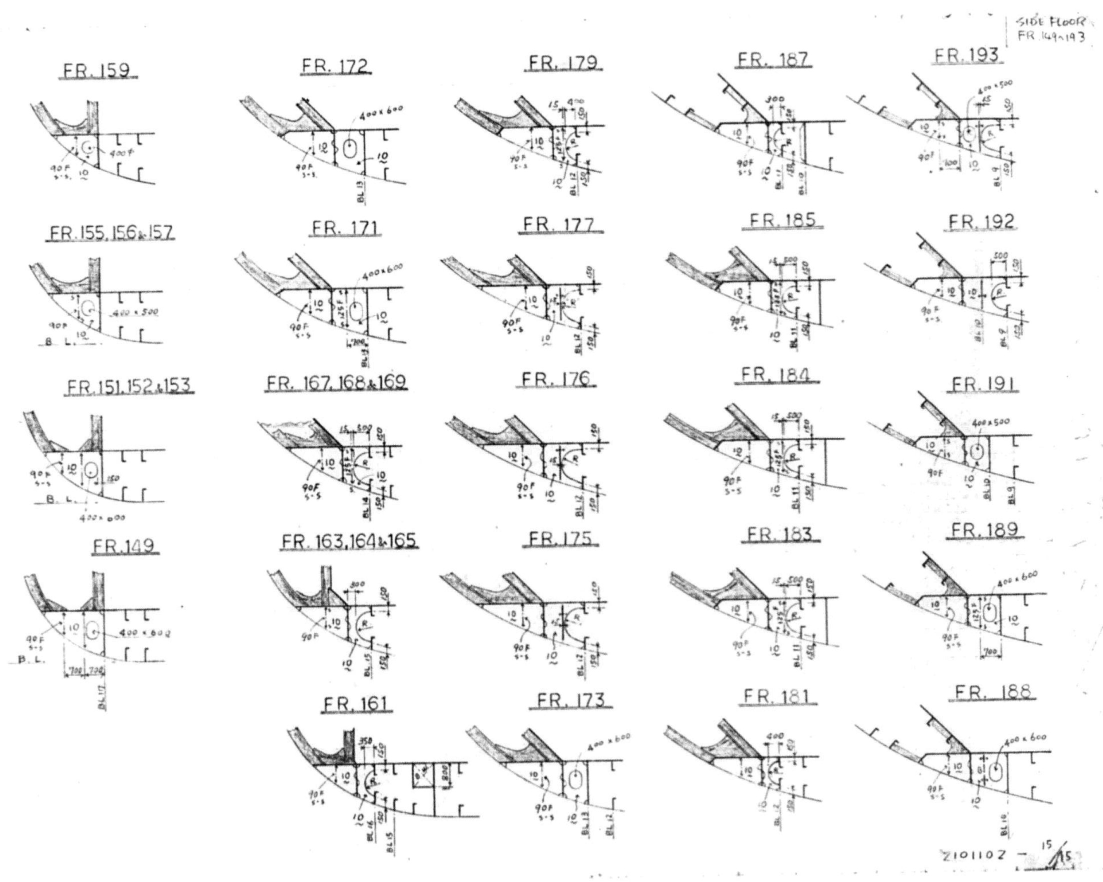


2101102 - 13

SIDE FLOOR
FR.85~121



2101102 - 14


SIDE FLOOR FR 149~193
FR. 159
FR. 172
FR. 179
FR. 187
FR. 193
FR. 155, 156 & 157
FR. 171
FR. 177
FR. 185
FR. 192
FR. 151, 152 & 153
FR. 167, 168 & 169
FR. 176
FR. 184
FR. 191
FR. 149
FR. 163, 164 & 165
FR. 175
FR. 183
FR. 189
FR. 161
FR. 173
FR. 181
FR. 188
Z101102 - 15/15

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.	—	FOLLOWED MES ORIGINAL PLAN.	APR. 11. '85	
-01		Do. PARTLY REVISED PLAN NO. 1	APR. 23. '85	
-10	A	PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. MODIFIED TYPE OF TEMP. HOLES FROM ACCESS HOLE TO CABLE HOLE. 2. MODIFIED SHAPE OF SLOTS ON FLOOR AND PROVIED COLLAR PLATES. 3. ADDED BUTT JOINTS. BASED DWG: MES DWG NO. 2101102 (INCL. PARTLY REVISED PLAN NO. 1)	JUN. 12 '85	H.Ko
-11		FOLLOWED MES PARTLY REVISED PLAN NO. 2	JUL. 10. '85	H.Ko
-12		Do. No. 3	AUG. 2 '85	H.Ko
-13	B	CHANGED SIZE OF TEMP. CABLE HOLES.	MAY. 20 '86	H.Ko
-14	C	1. ADDED REINFORCEMENT FOR LAUNCHING. 2. ENLARGED TEMP. ACCESS HOLE ON INNER BOTTOM AT FR. 92 STARBOARD SIDE.	JUN. 30. '86	H.Ko
-F	—	PREPARED AS FINISHED PLAN FOR S. No. 1158	MAR. 11 '87	H.Ko

SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION			
	APPROVED	S. Hirayama / H. Kokawa	CLASS ABS	
	CHECKED	S. Furuhashi	貨物倉内二重底（後部）	
	DRAWN		DBL. BTM. IN HOLD (AFT)	
	SCALE			
	ORDER	01-15800 ~~01-15800~~ ~~01-16400~~	DRAWING NO. HS-10420-F	LYKES REF. NO. 110202

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	MAR 27 '85	OPTS/MTS 231						
PARTLY REV. NO. 1	MAY 14 '85	OPTS/MTS 401						

SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~	MITSUBISHI KOBE
NO. 1323 ~~DOCTOR LYKES~~	NO. 1158 JAMES LYKES
NO. 1324 ~~ALMERIA LYKES~~	NO. 1159 ~~JOSEPH LYKES~~
NO. 1325 ~~TILLIE LYKES~~	NO. 1164 ~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER	SHIP'S NO.	SHIP'S NAME
STRUCTURE DESIGN SEC.		PARTLY REVISED PLAN NO. 3
SEC. CHIEF N. Yamamoto	貨物倉内二重底（後部）	
ASSIST. CHIEF	DBL. BTM. IN HOLD (AFT)	
CHARGE ENG'R		
STAFF M.O.		
DATE (TEL. 2230)		
JOB NO. TS1323/24/25 / SCALE 1/100	LYKES REF. NO. 110202	MITSUI DRAWING NO. 2101102-3
JOB CLASSIF. NO. B. 01		

(4 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWR AND ABS.	Feb. 15 '85
1	1	MISCELLANEOUS REVISION OWR'S REQ (LTR No. OTT/MTS 166 & OPTS/MTS 231 DATED MAR 7 '85 & MAR 27 '85) MTS TLX NO. 522 DATED MAR 14 '85	APR. 3 '85 (4)
2	2	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	JUN 17 '85 JM
3	3	MISCELLANEOUS REVISION	JULY 25 '85 M.O

DWG. NO. 2101102-3

NOTES:-

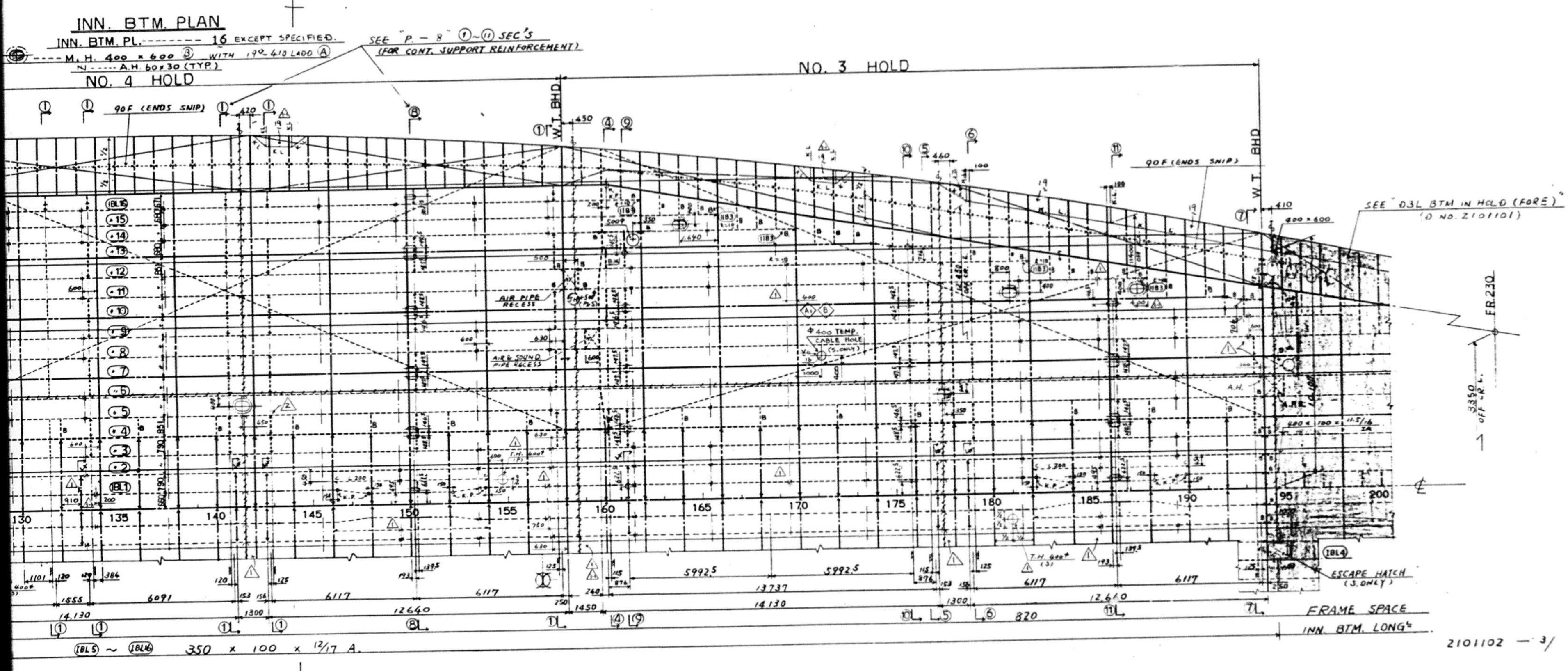
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

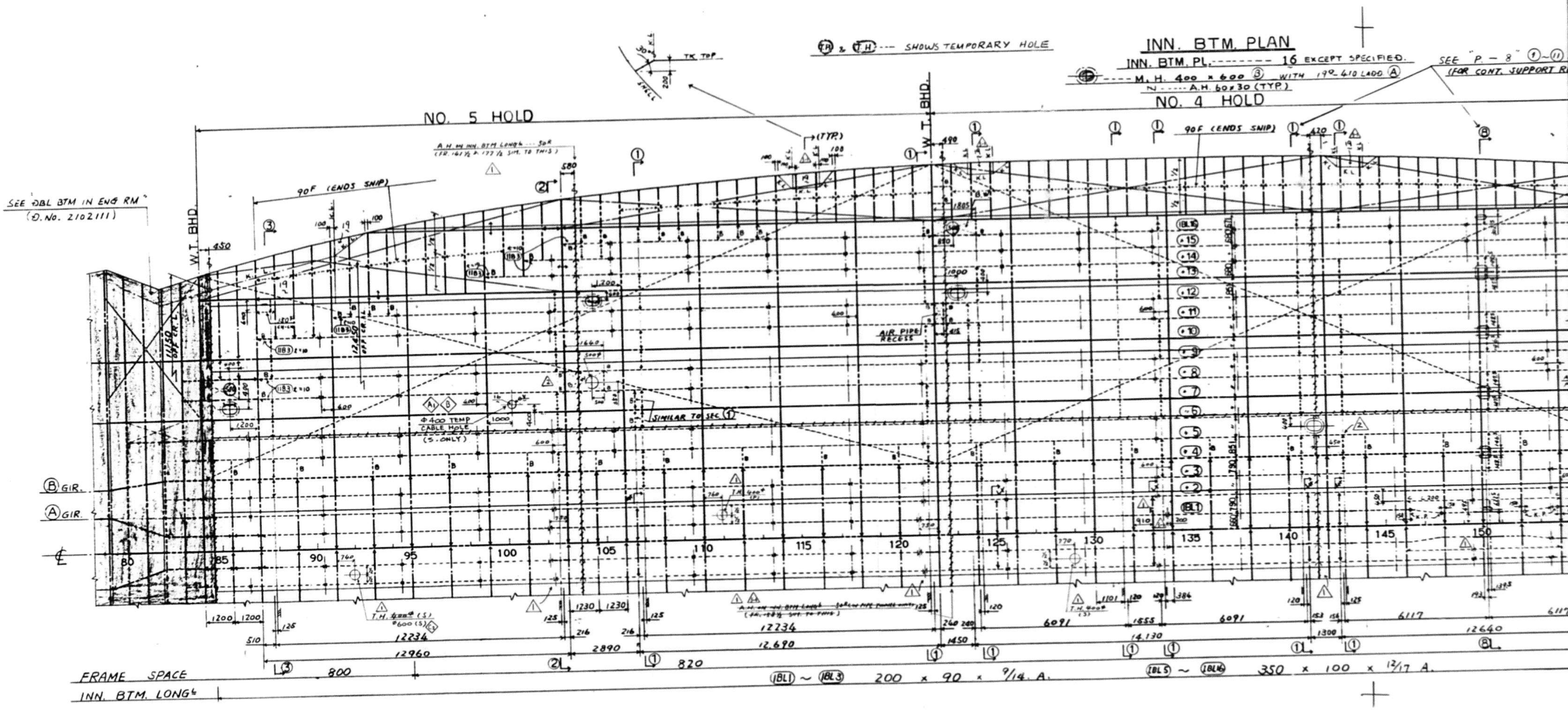
備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は'構造詳細図（図番 2100811）'を参照のこと。
4. 溶接脚長については，特記の他は'溶接脚長表（図番 2100832）'を参照のこと。

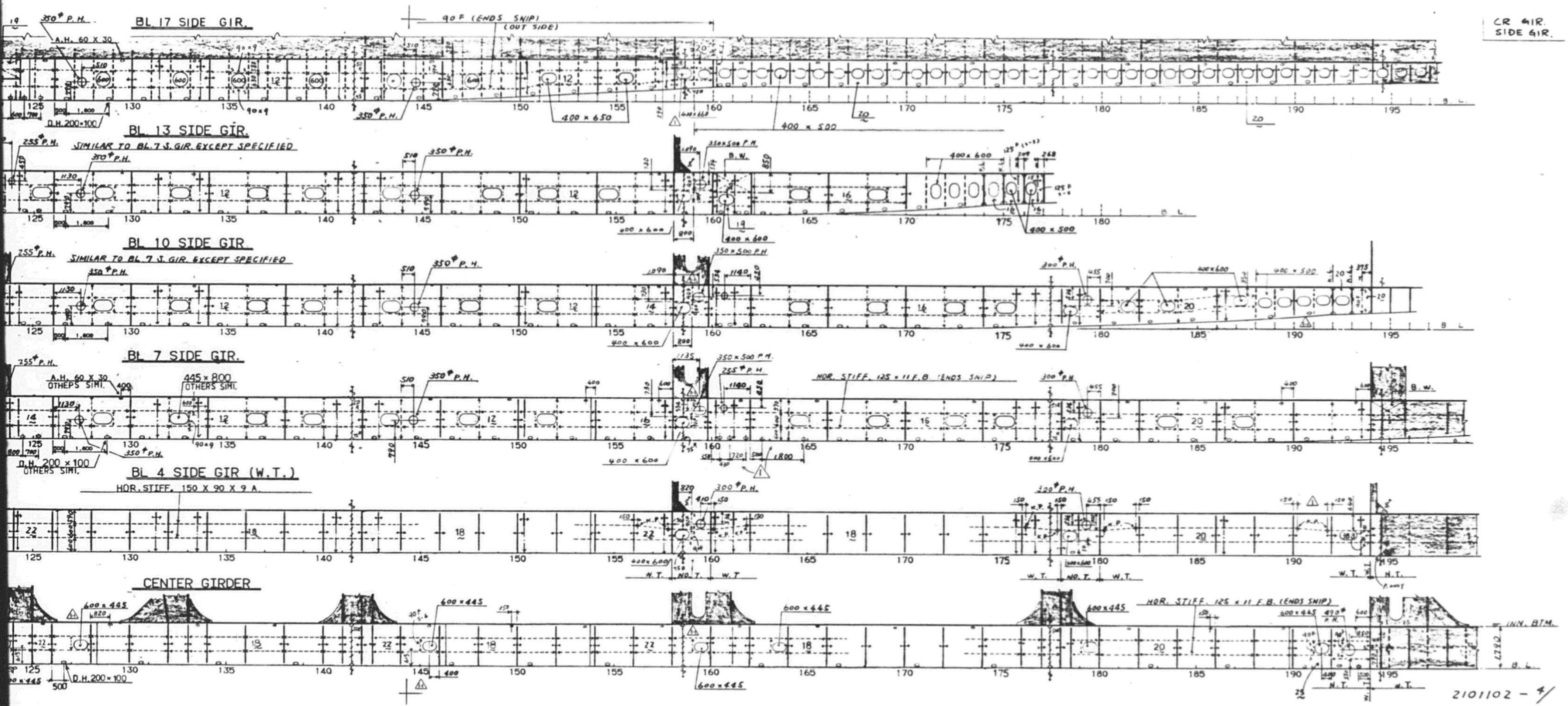
2101102-2/

114


INN. BTM. PLAN
INN. BTM. PL. -------- 16 EXCEPT SPECIFIED.
---- M. H. 400 × 600 ③ WITH 19φ-410 L400 Ⓐ
---- A.H. 60×30 (TYP.)
SEE "P - 8" ①~⑪ SEC'S
(FOR CONT. SUPPORT REINFORCEMENT)
NO. 4 HOLD
NO. 3 HOLD
90F (ENDS SNIP)
W.T. BHD
SEE "D3L BTM IN HOLD (FORE)"
(D NO. 2101101)
400 × 600
FR.230
AIR PIPE RECESS
AIR & SOUND PIPE RECESS
Φ400 TEMP. CABLE HOLE (S. ONLY)
ESCAPE HATCH (S. ONLY)
FRAME SPACE
INN. BTM. LONG'L
(IBL5) ~ (IBL16) 350 × 100 × 12/17 A.
2101102 — 3/

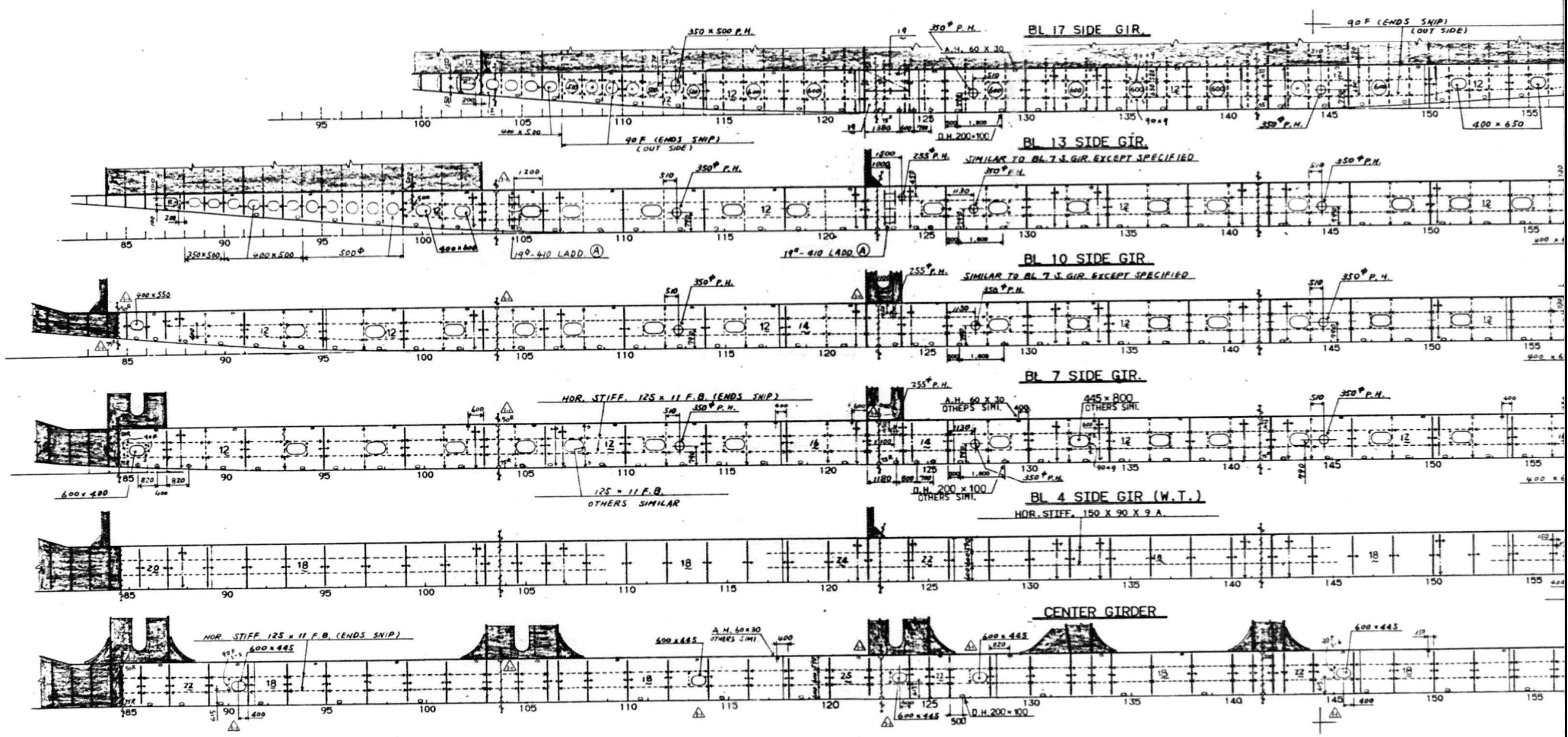

INN. BTM. PLAN
INN. BTM. PL. -------- 16 EXCEPT SPECIFIED.
M. H. 400 x 600 ③ WITH 19φ-410 LADD Ⓐ
N ----- A.H. 60x30 (TYP.)
Ⓣⓗ & Ⓣ.Ⓗ --- SHOWS TEMPORARY HOLE
NO. 5 HOLD
NO. 4 HOLD
W. T. BHD.
TK TOP
SHELL
90F (ENDS SNIP)
SEE "DBL BTM IN ENG RM"
(D. No. 2102111)
AIR PIPE RECESS
Φ400 TEMP CABLE HOLE (S. ONLY)
SIMILAR TO SEC ①
Ⓑ GIR.
Ⓐ GIR.
80
85
90
95
100
105
110
115
120
125
130
135
140
145
150
12234
12960
2890
12,690
14,130
12640
6091
6117
FRAME SPACE
800
820
INN. BTM. LONGL
ⒾⒷⓁ1 ~ ⒾⒷⓁ3 200 x 90 x 9/14 A.
ⒾⒷⓁ5 ~ ⒾⒷⓁ16 350 x 100 x 12/17 A.

2/2 116



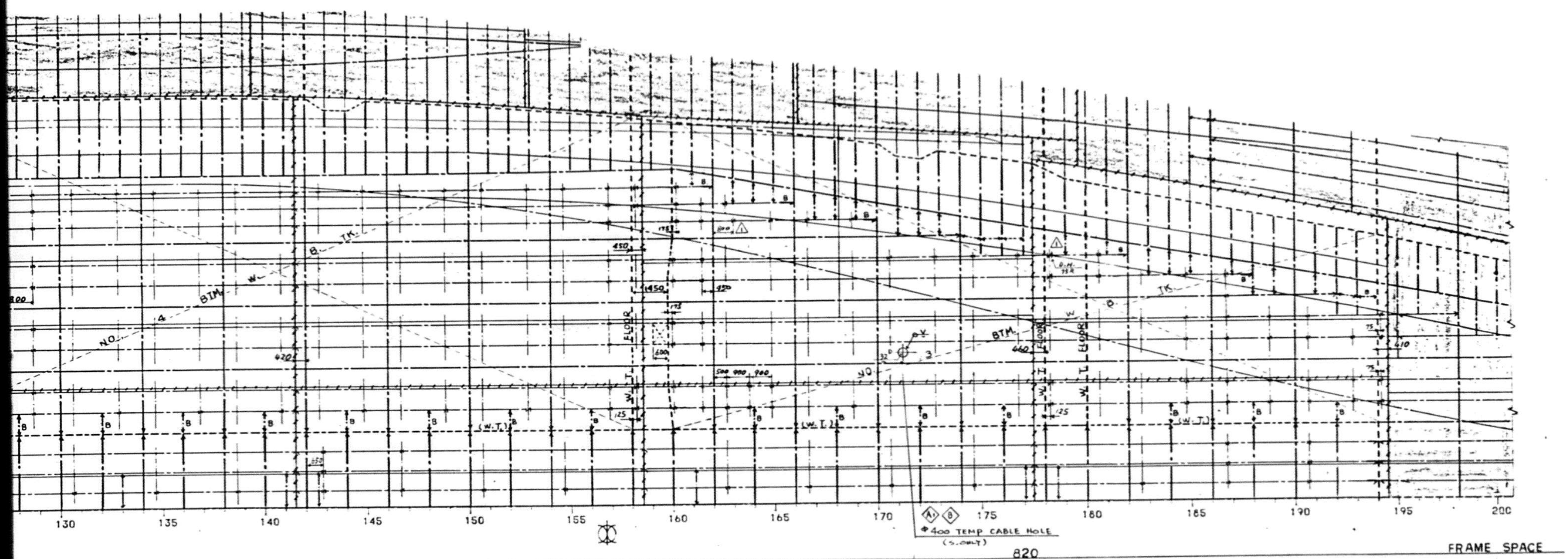
BL 17 SIDE GIR.
BL 13 SIDE GIR.
SIMILAR TO BL.7 S.GIR. EXCEPT SPECIFIED
BL 10 SIDE GIR.
SIMILAR TO BL 7 S.GIR EXCEPT SPECIFIED
BL 7 SIDE GIR.
BL 4 SIDE GIR (W.T.)
HOR. STIFF. 150 X 90 X 9 A.
CENTER GIRDER
CR GIR.
SIDE GIR.
INN. BTM.
2101102 - 4/

1/2 117


BL 17 SIDE GIR.
BL 13 SIDE GIR.
SIMILAR TO BL 7 S. GIR. EXCEPT SPECIFIED
BL 10 SIDE GIR.
SIMILAR TO BL 7 S. GIR. EXCEPT SPECIFIED
BL 7 SIDE GIR.
HOR. STIFF. 125 x 11 F.B. (ENDS SNIP)
125 x 11 F.B.
OTHERS SIMILAR
BL 4 SIDE GIR (W.T.)
HOR. STIFF. 150 X 90 X 9 A.
CENTER GIRDER
HOR. STIFF. 125 x 11 F.B. (ENDS SNIP)
D.H. 200 x 100

NG. OF BTM. LONGL

ARR. OF BTM LONGL

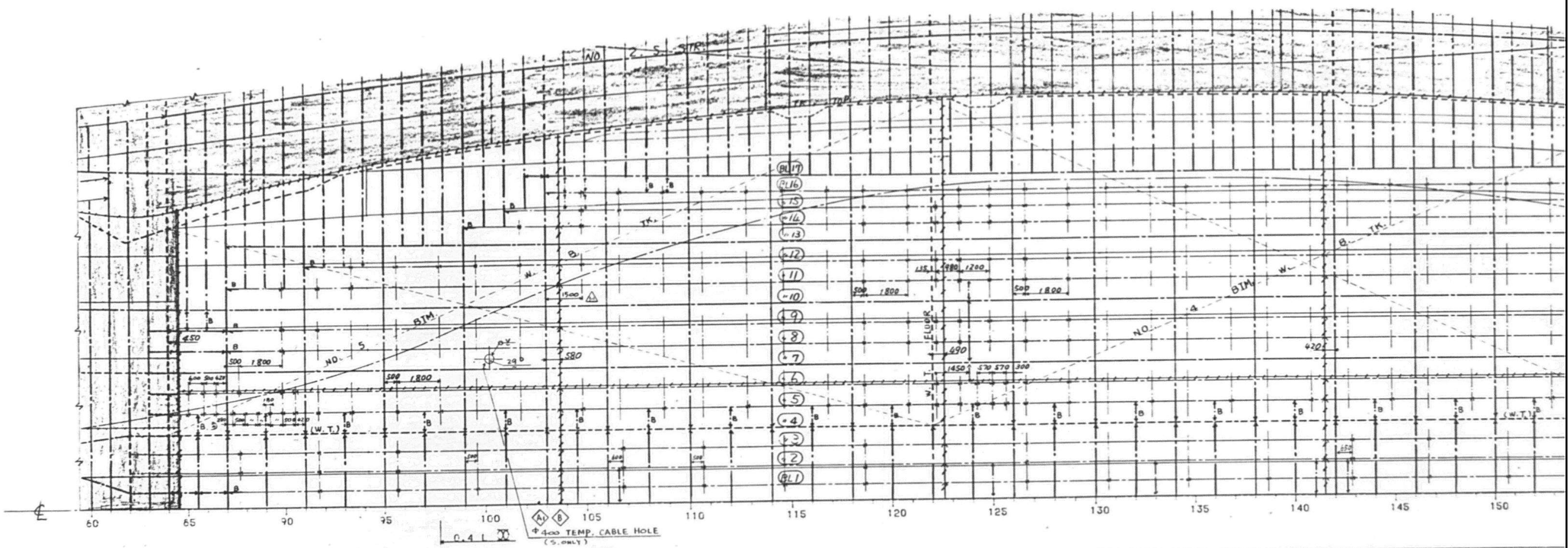


BL5 ~ BL16 400 × 100 × 13/18 A.

2101102 - 5/

1/2 119

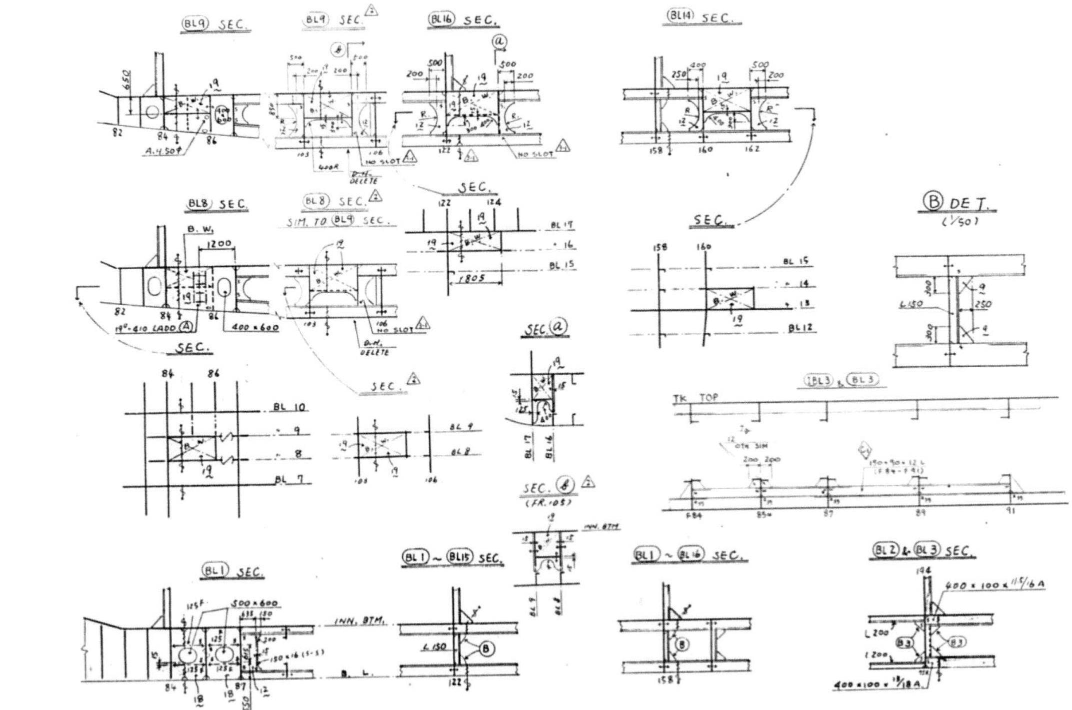
ARRANG. OF BTM. LONG'L



FRAME SPACE 800 820

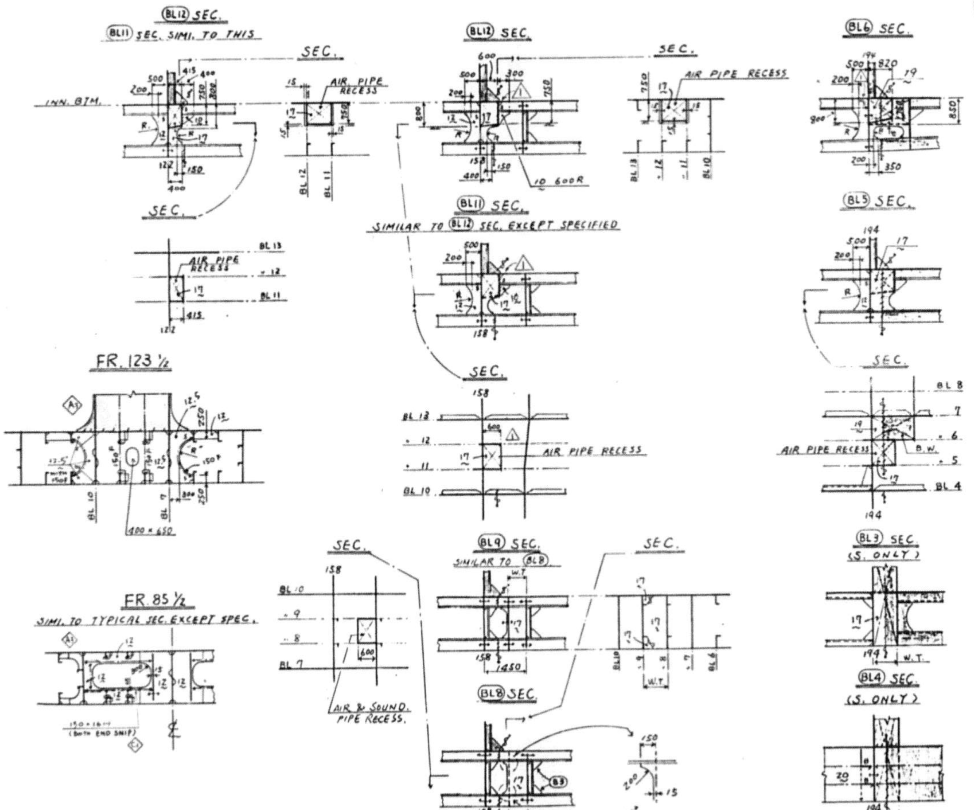
BTM. LONG'L (BL1) ~ (BL3) 200 × 90 × 9/14 A., (BL5) ~ (BL16) 400 × 100 × 13/18 A.

BTM LONG'L SEC.



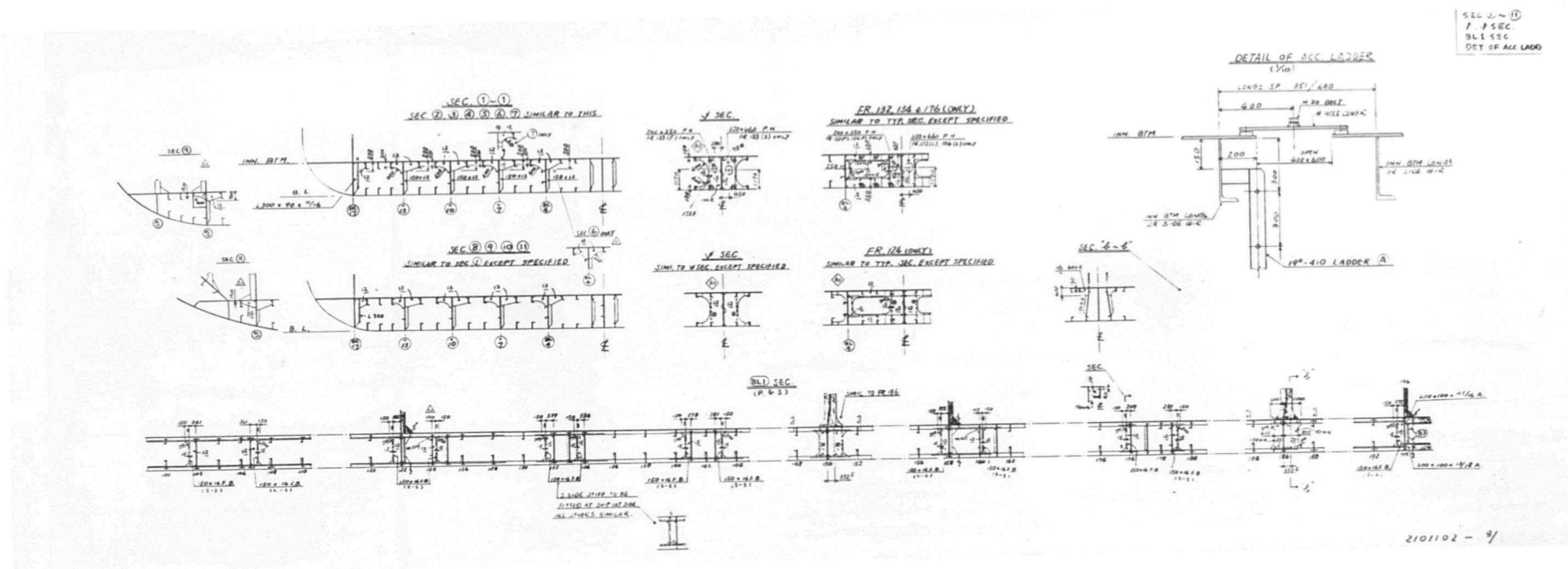
2101102 - 6/

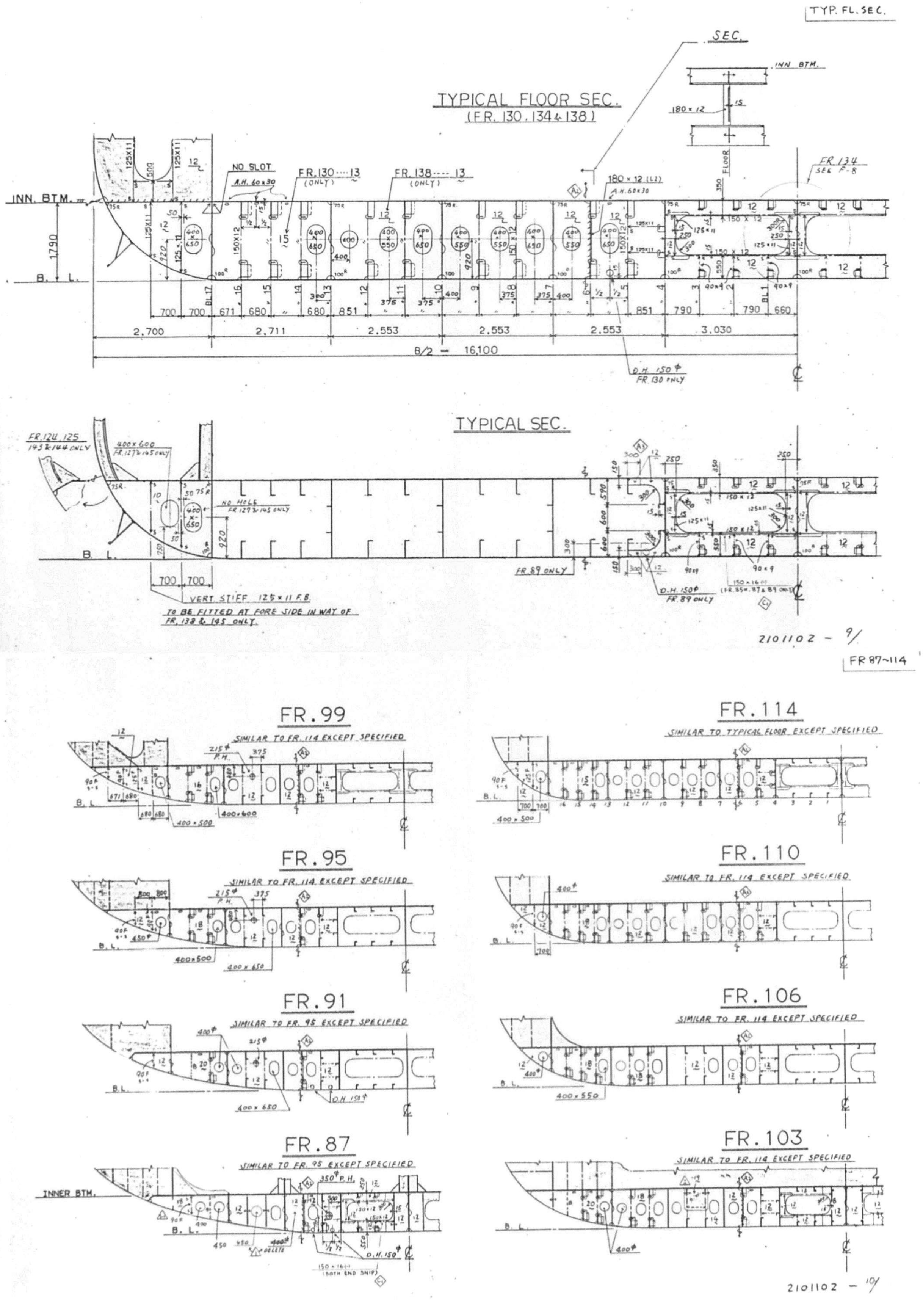
BTM LONG'L SEC.



2101102 - 7/

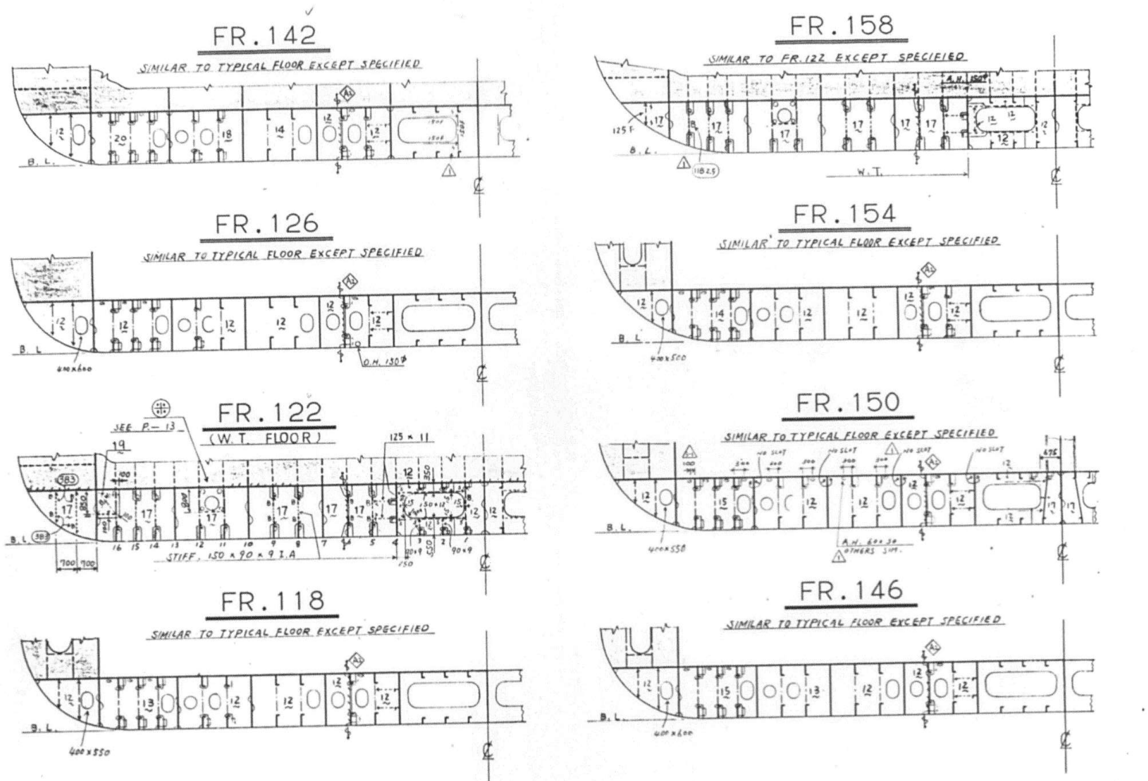
121


SEC. ①-①
SEC ②, ③, ④, ⑤, ⑥, ⑦ SIMILAR TO THIS
INN. BTM.
SEC ⑧ ⑨ ⑩ ⑪
SIMILAR TO SEC ① EXCEPT SPECIFIED
FR. 132, 134 & 176 (ONLY)
SIMILAR TO TYP. SEC. EXCEPT SPECIFIED
FR. 124 (ONLY)
SIMILAR TO TYP. SEC. EXCEPT SPECIFIED
DETAIL OF ACC. LADDER
INN. BTM
OPEN 400 x 600
LADDER Ⓐ
SEC. "b-b"
SEC ②~⑪
BL1 SEC.
DET OF ACC LADD
2101102 - 4/


TYP. FL. SEC.
SEC.
INN. BTM.
FLOOR
TYPICAL FLOOR SEC.
(FR. 130, 134 & 138)
NO SLOT
A.H. 60x30
FR.130 ···· 13 (ONLY)
FR.138 ···· 13 (ONLY)
180 × 12 (LT)
FR.134 SEE F-8
INN. BTM.
B. L.
B/2 = 16,100
D.H. 150φ FR.130 ONLY
TYPICAL SEC.
FR.124, 125 143 & 144 ONLY
NO HOLE FR.127 & 145 ONLY
FR.89 ONLY
VERT. STIFF 125 × 11 F.B.
TO BE FITTED AT FORE SIDE IN WAY OF FR.138 & 145 ONLY.
D.H. 150φ FR.89 ONLY
2101102 - 9/
FR 87~114
FR.99
SIMILAR TO FR.114 EXCEPT SPECIFIED
FR.114
SIMILAR TO TYPICAL FLOOR EXCEPT SPECIFIED
FR.95
SIMILAR TO FR.114 EXCEPT SPECIFIED
FR.110
SIMILAR TO FR.114 EXCEPT SPECIFIED
FR.91
SIMILAR TO FR.95 EXCEPT SPECIFIED
FR.106
SIMILAR TO FR.114 EXCEPT SPECIFIED
FR.87
SIMILAR TO FR.95 EXCEPT SPECIFIED
INNER BTM.
FR.103
SIMILAR TO FR.114 EXCEPT SPECIFIED
2101102 - 10/

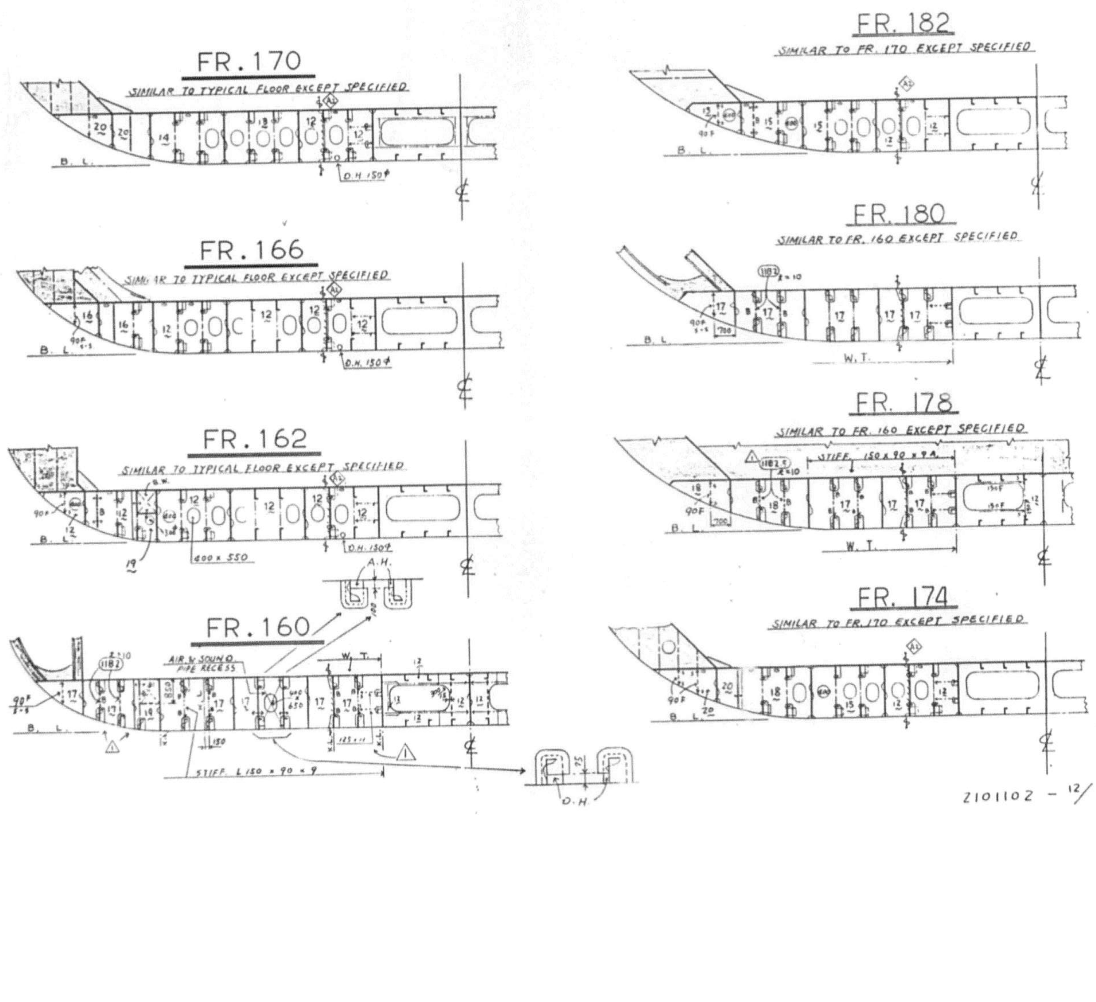
123

FR.118 ~ 158



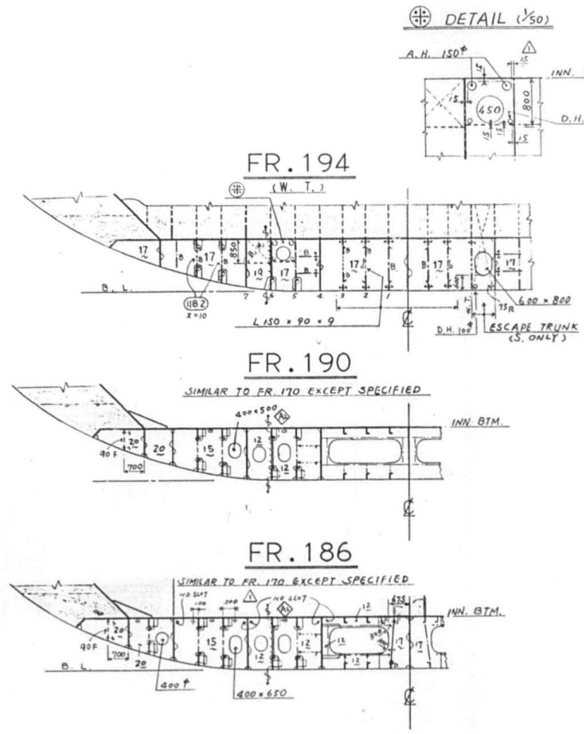
Z101102 - 11/

FR.160 ~ 182

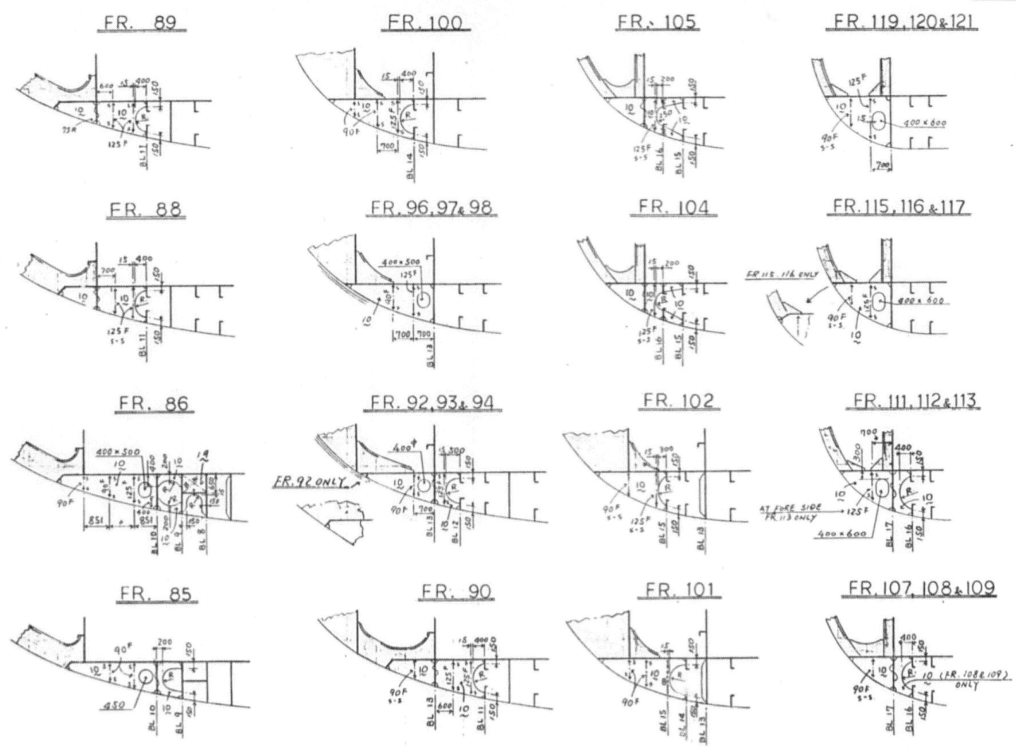


Z101102 - 12/

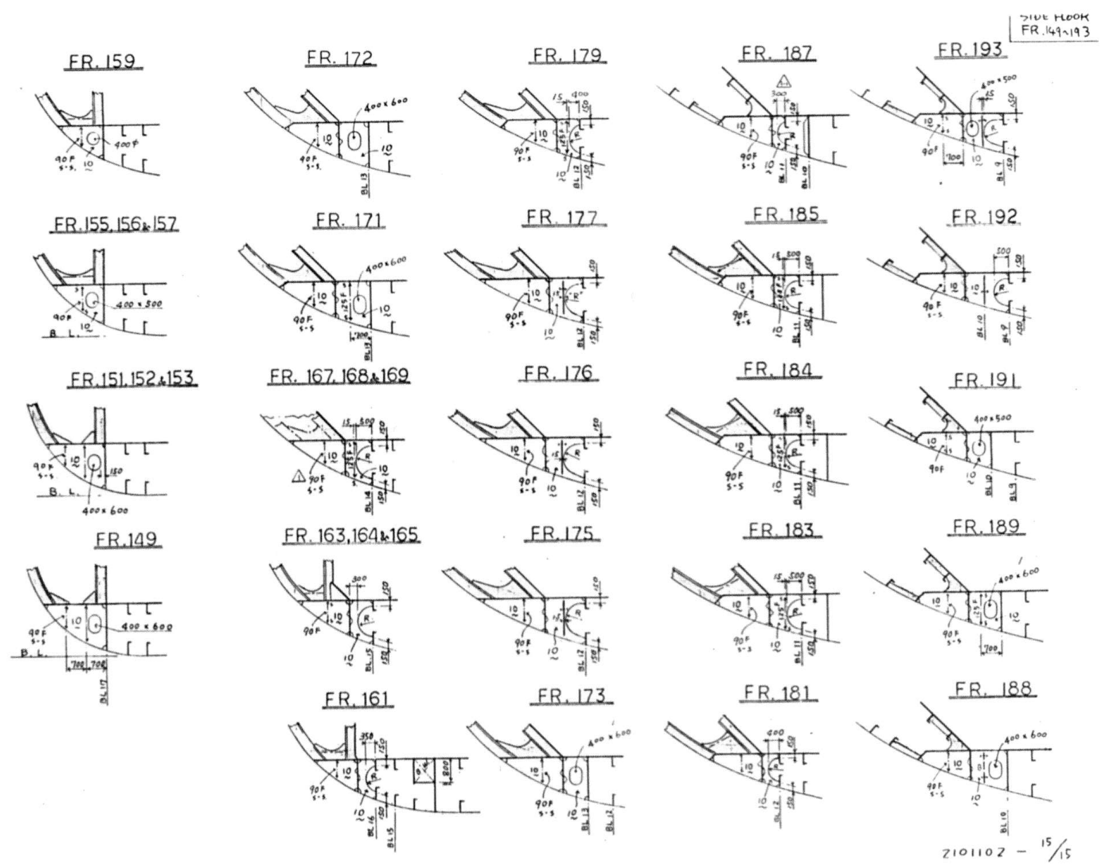
FR 186~194



2101102 - 13/
SIDE FLOOR
FR.85~121



2101102 - 14/


SIDE FLOOR
FR. 149~193
FR. 159
FR. 172
FR. 179
FR. 187
FR. 193
FR. 155, 156 & 157
FR. 171
FR. 177
FR. 185
FR. 192
FR. 151, 152 & 153
FR. 167, 168 & 169
FR. 176
FR. 184
FR. 191
FR. 149
FR. 163, 164 & 165
FR. 175
FR. 183
FR. 189
FR. 161
FR. 173
FR. 181
FR. 188
Z101102 - 15/15

APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	Apr. 3. '85	OFTS/MES/263						
1ST REVISED PLAN	May 24 '85	OFTS/MES-449			26 Jul '86	7-8-2		
PARTLY REVISED PLAN NO. 1	June 18 '85	OFTS/MES-570			14 Aug '86	7-8-2		
2ND PART REV	8 Sep '86	TAM/56			9 Oct '86	7-8-2		
3RD PART REV	22 Sep '86	TAM/70			15 Oct '86	7-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO. 1323	DOCTOR LYKES	NO. 1158	JAMES LYKES
NO. 1324	ALMERIA LYKES	NO. 1159	JOSEPH LYKES
NO. 1325	TILLIE LYKES	NO. 1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC. CHIEF
STAMP DESIGN DEPARTMENT
DATE (TEL.)
JOB NO. TS1323/24/25
JOB CLASSIF. NO.
SCALE 1/100

SHIP'S NO. **1325**
SHIP'S NAME **TILLIE LYKES**

機関室二重底構造
DOUBLE BOTTOM IN ENG. RM.

LYKES REF. NO. 110203
MITSUI DRAWING NO. 2102111 R

17 SHEETS WITH COVER)

PLAN RECORD			
ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S. NO. 1323 AS FINISHED PLAN, CHANGED AS FOLLOWS.	
		△ REINFORCEMENT OF UNDER AUX. MACH. SEAT.	NOV. 29. '86
		MADE APPLICABLE TO S. NO. 1325."	

DWG. NO. 2102111 - 1/

NOTES:-

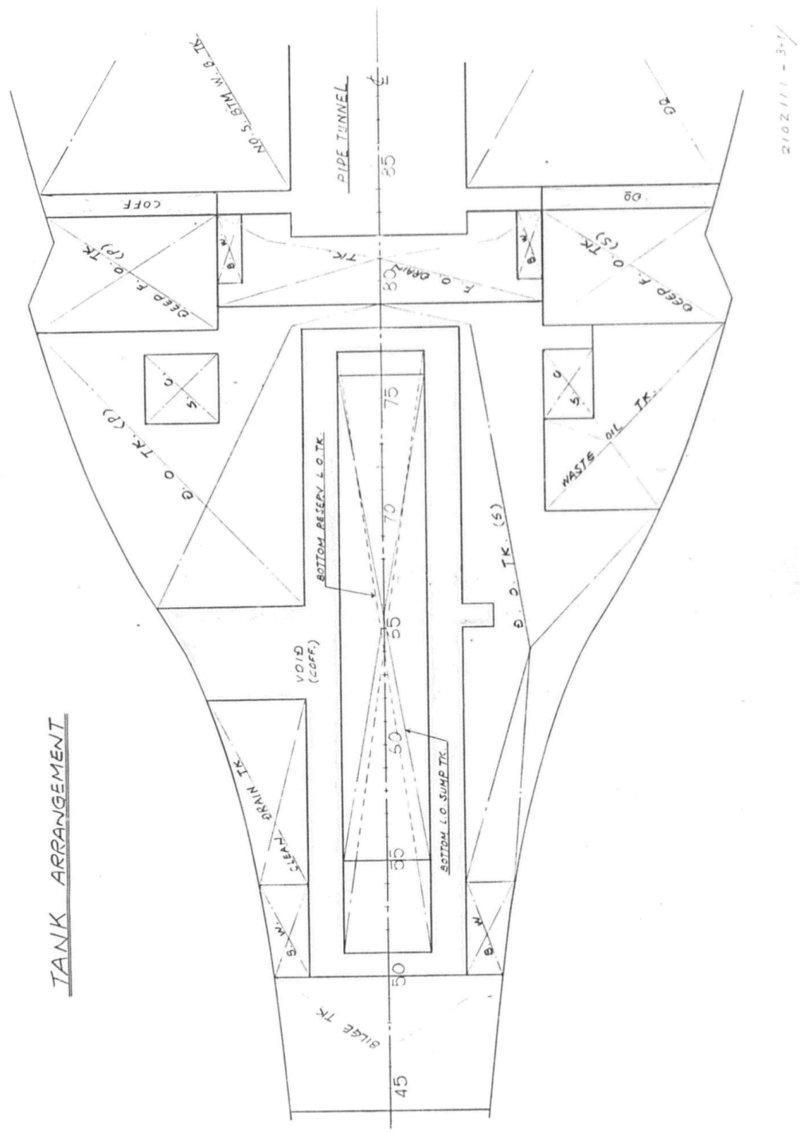
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

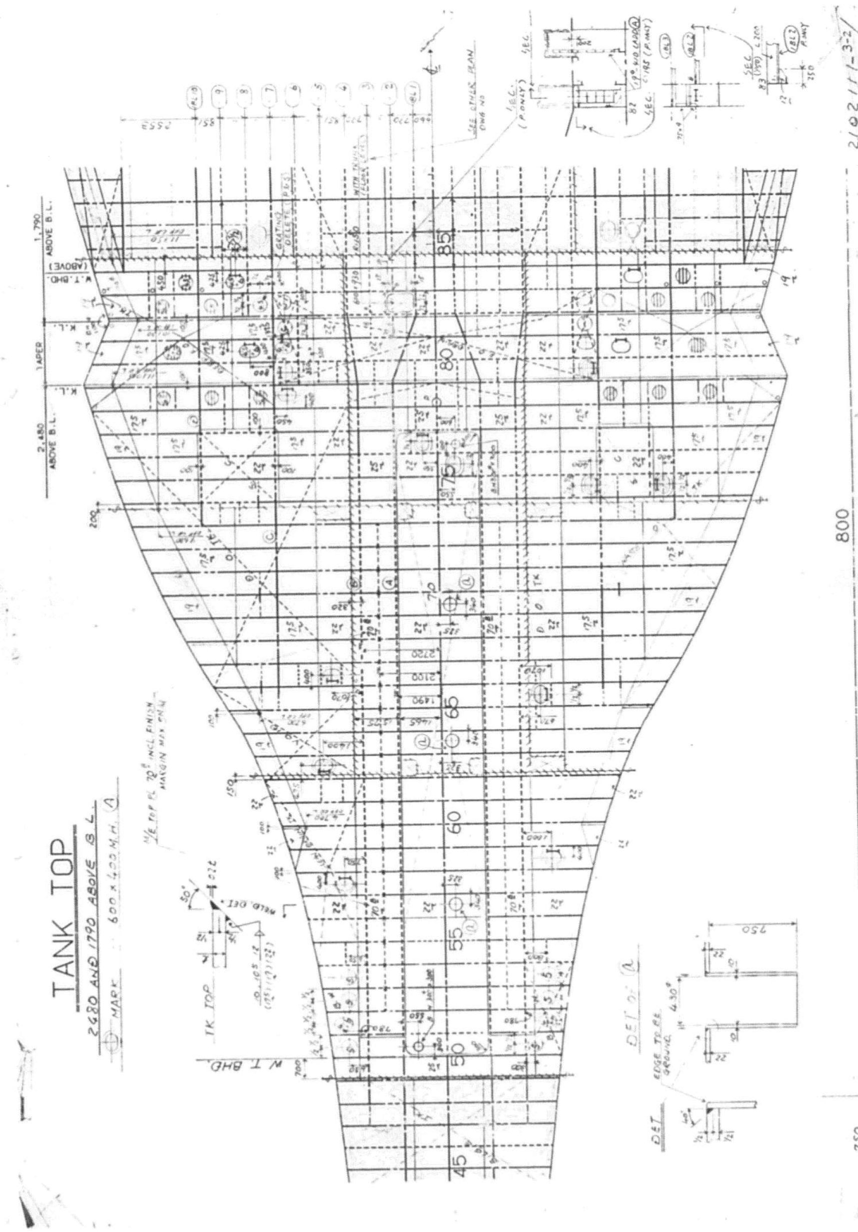
備考：－

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は '構造詳細図（図番2100811）' を参照のこと。
4. 溶接脚長については，特記の他は '溶接脚長表（図番2100832）' を参照のこと。

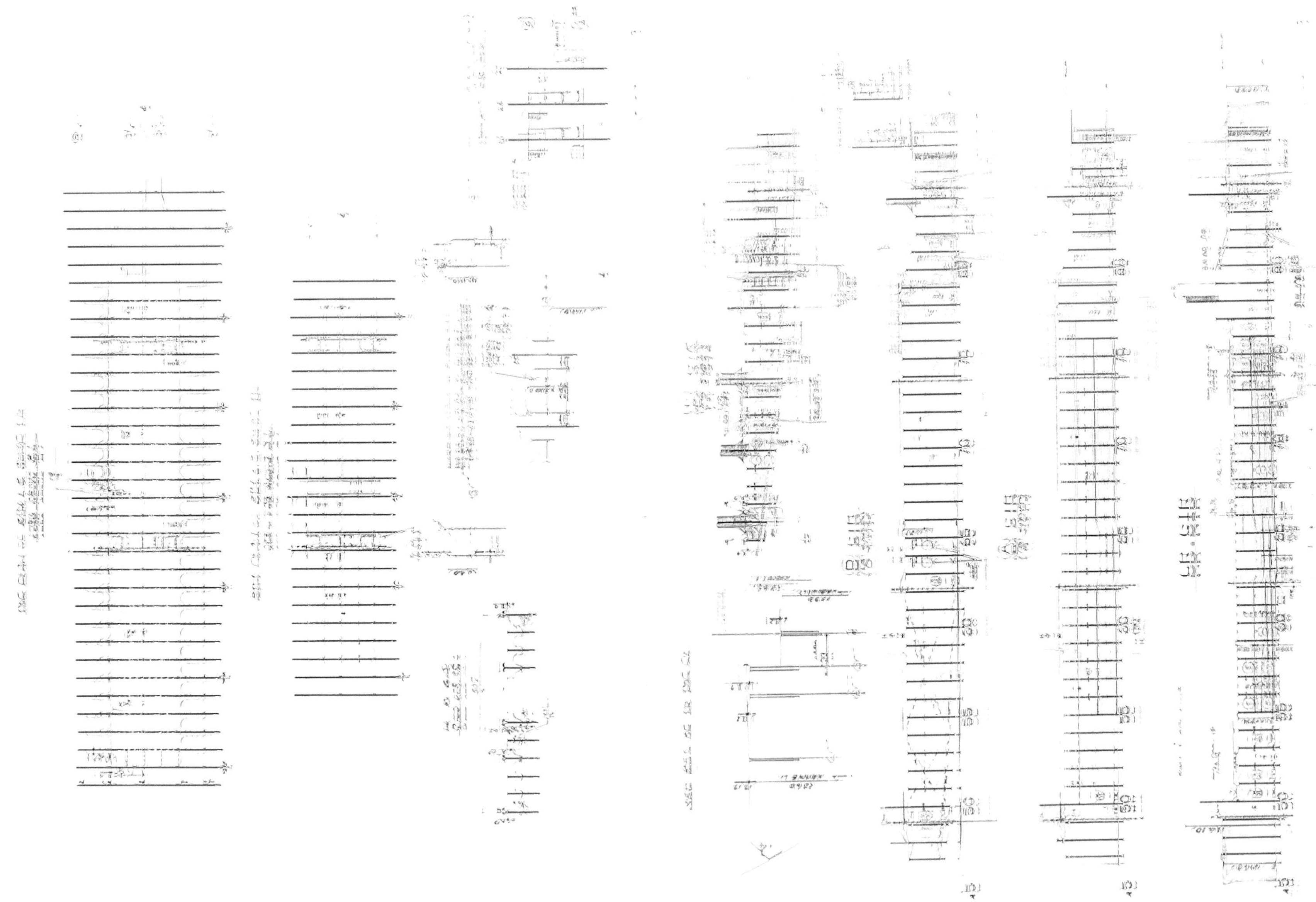
2102111 - 2/

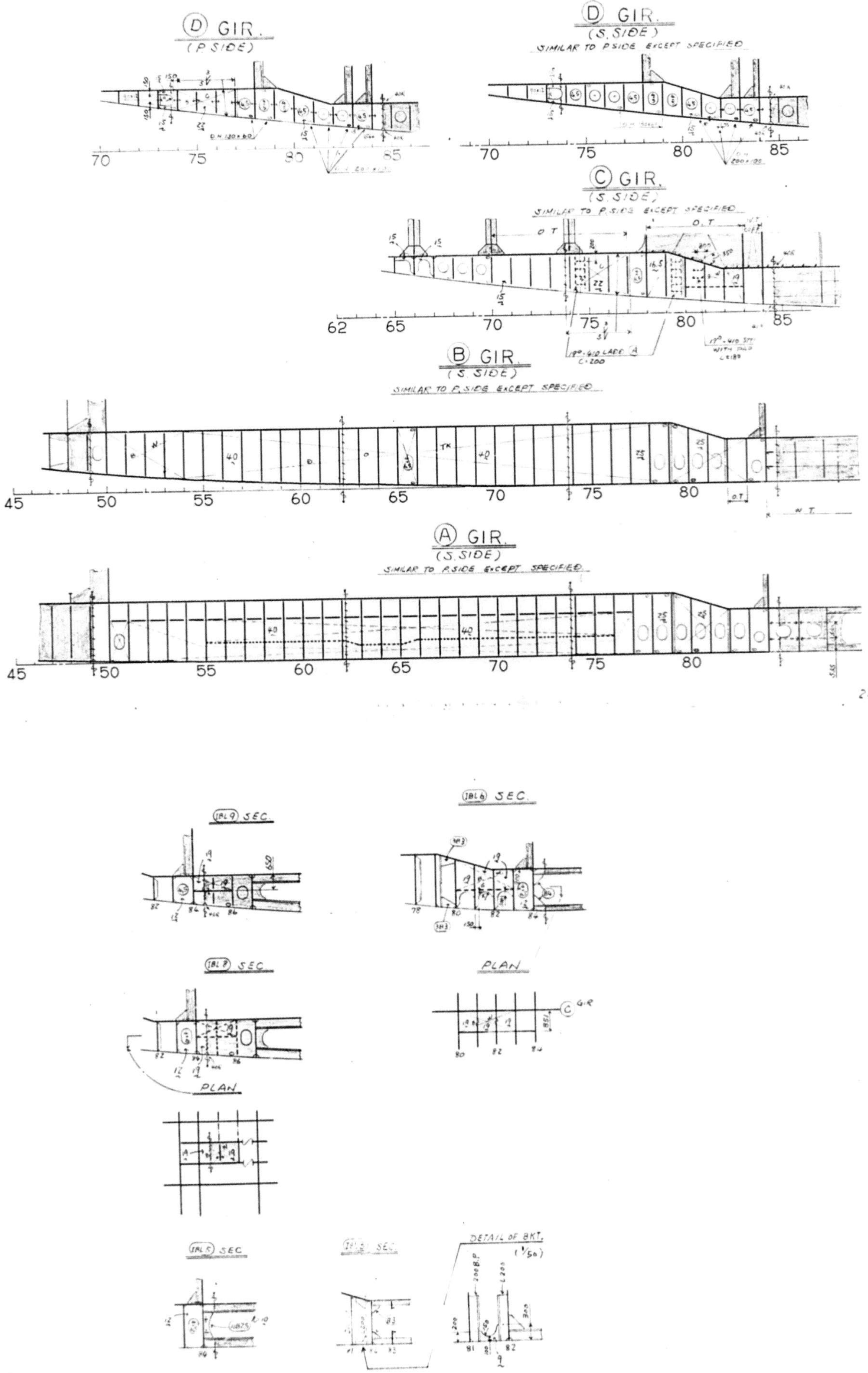
127


TANK ARRANGEMENT
PIPE TUNNEL
COFF
DEEP F.O. TK (P)
DEEP F.O. TK (S)
F.O. DRAIN TK
D.O. TK (P)
D.O. TK (S)
WASTE OIL TK
BOTTOM RESERV L.O. TK
BOTTOM L.O. SUMP TK
VOID (COFF)
CLEAN DRAIN TK
BILGE TK
NO. 5 BTM. W.B. TK
DO


TANK TOP
2480 AND 1790 ABOVE B.L.
W.T. BHD
TK TOP
DET
800
750

128

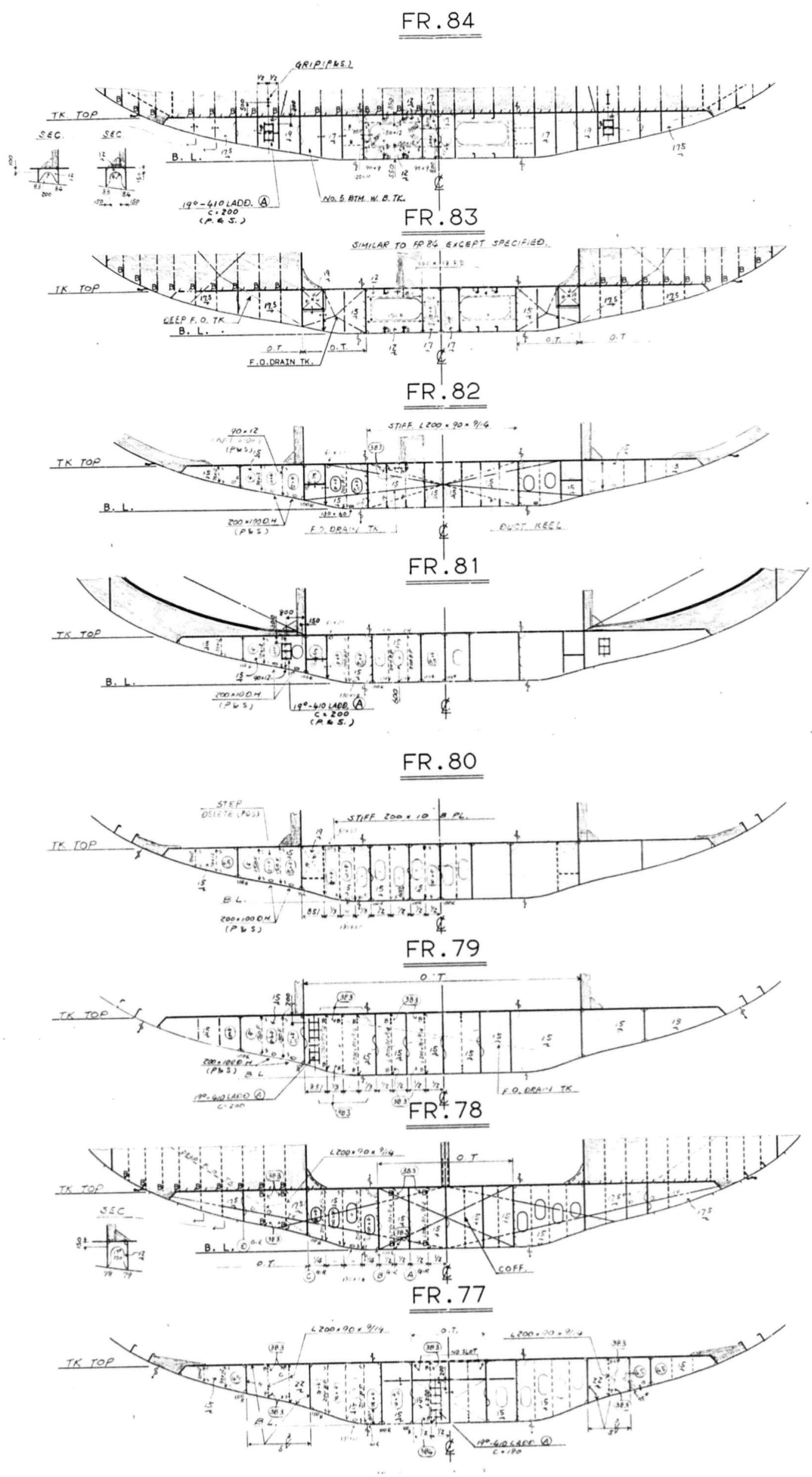




2102 - 6/

2102 - 7/

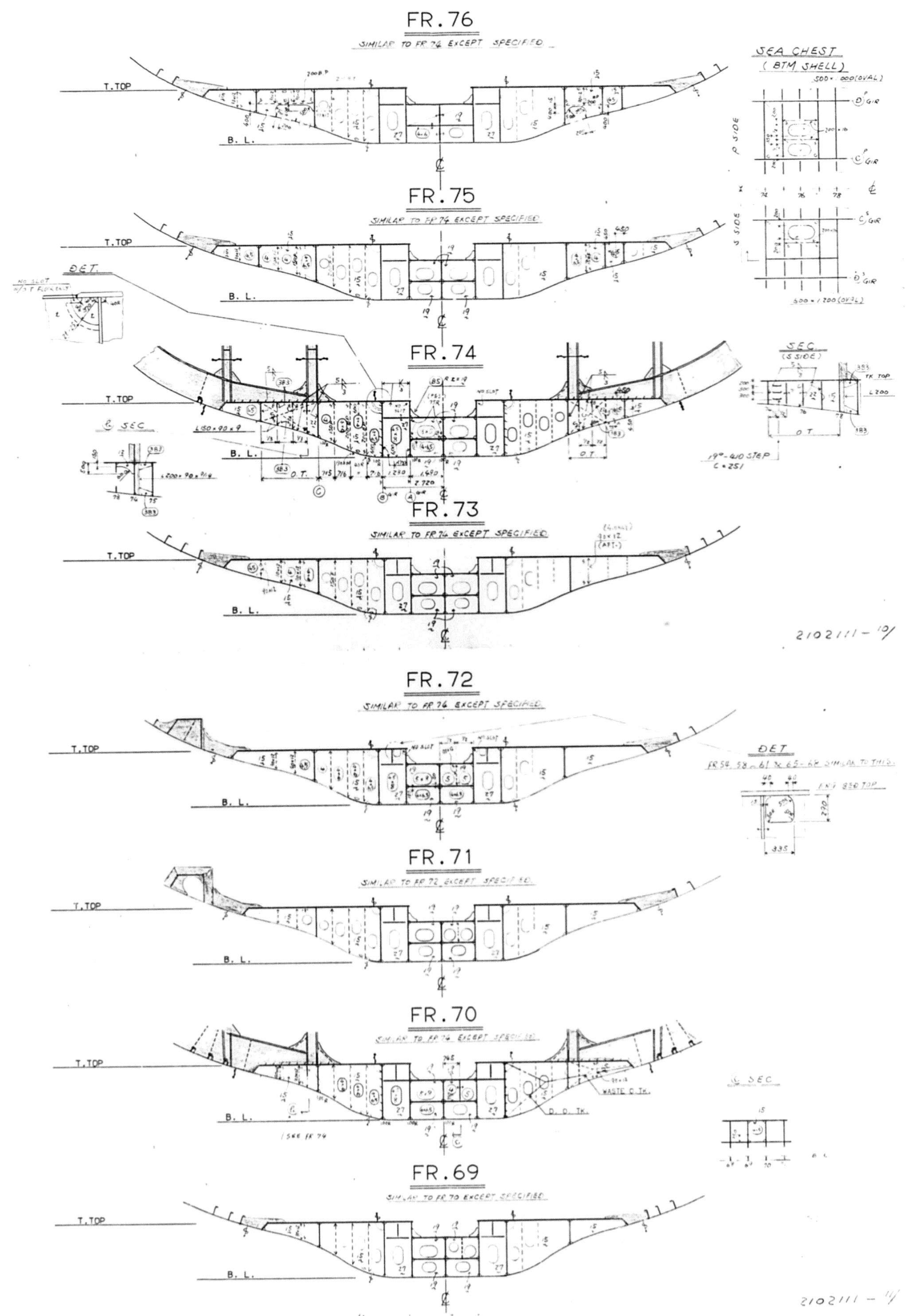
130

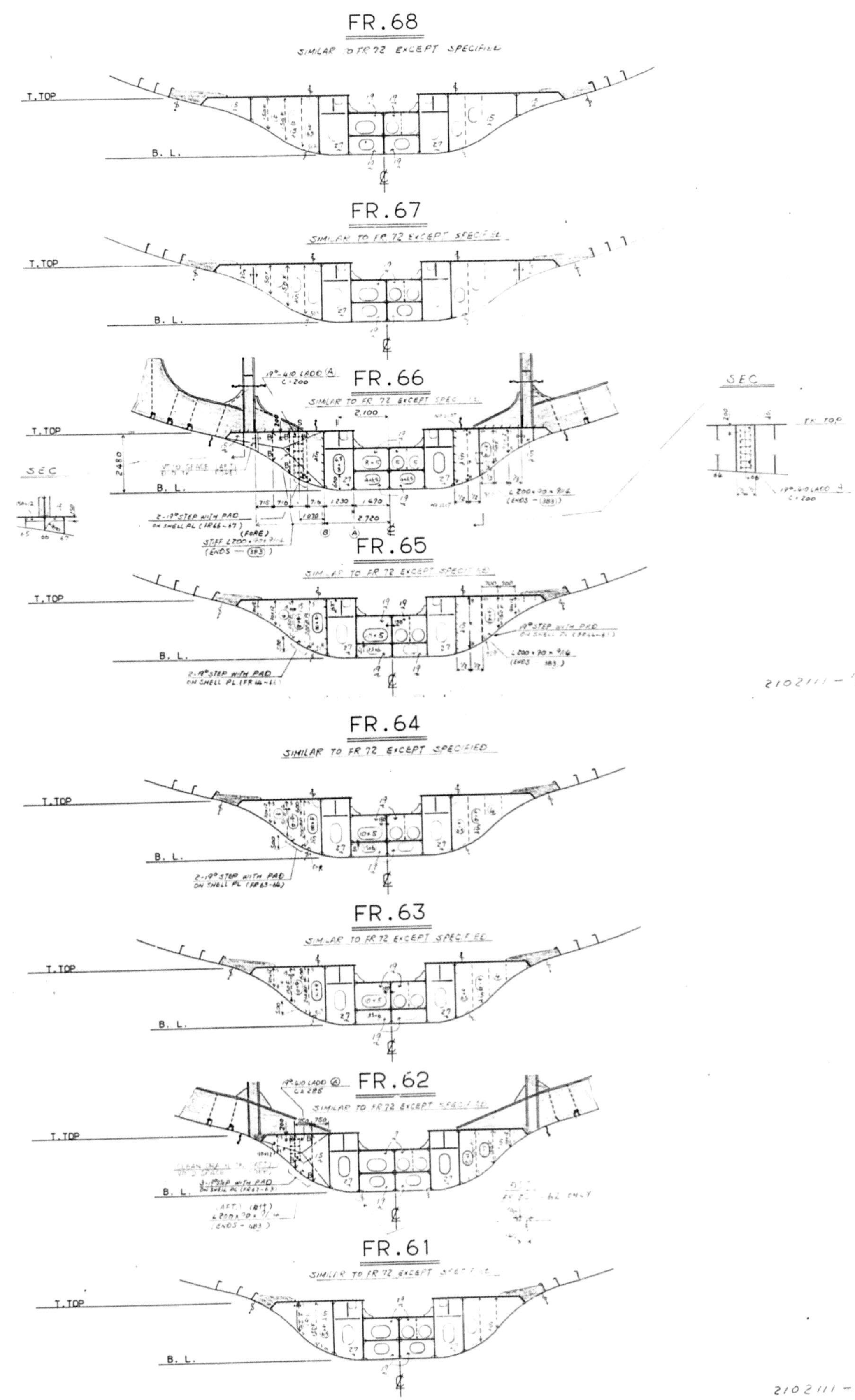


2102111-8/

2102111-9/

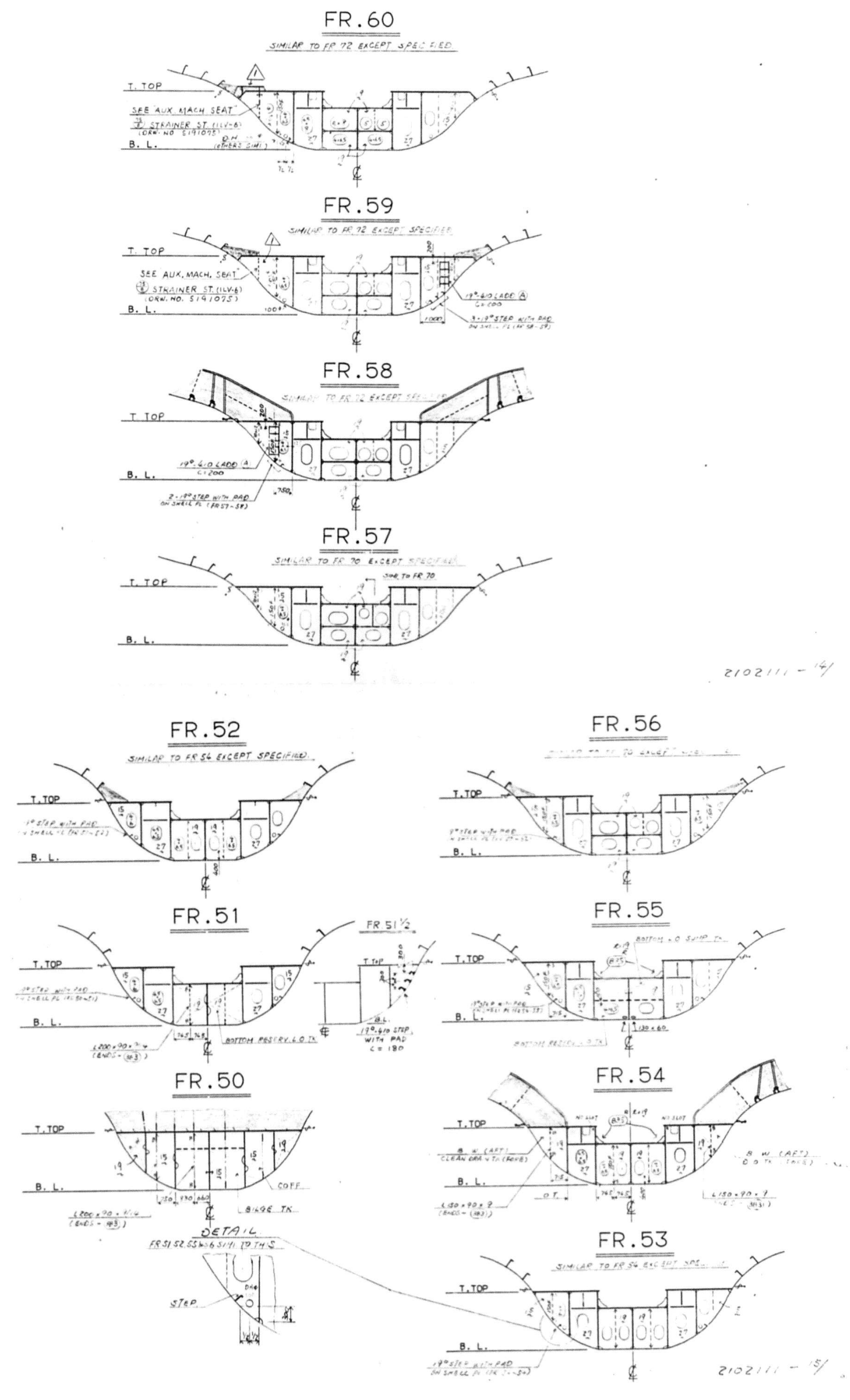
131


FR. 76
SIMILAR TO FR 74 EXCEPT SPECIFIED
SEA CHEST
(BTM SHELL)
P SIDE
S SIDE
FR. 75
SIMILAR TO FR 74 EXCEPT SPECIFIED
DET.
FR. 74
SEC.
(S SIDE)
℄ SEC
L150 x 90 x 9
O.T.
FR. 73
SIMILAR TO FR 74 EXCEPT SPECIFIED
FR. 72
SIMILAR TO FR 76 EXCEPT SPECIFIED
DET
FR. 71
SIMILAR TO FR 72 EXCEPT SPECIFIED
FR. 70
SIMILAR TO FR 74 EXCEPT SPECIFIED
WASTE O. TK.
D. O. TK.
℄ SEC
FR. 69
SIMILAR TO FR 70 EXCEPT SPECIFIED
T. TOP
B. L.
℄
2102111 - 10/
2102111 - 11/



2102111 – 13/

133


FR.60
SIMILAR TO FR 72 EXCEPT SPECIFIED
T. TOP
SEE AUX. MACH. SEAT
STRAINER ST. (ILV-6)
(DRW. NO. 5191075)
B. L.
FR.59
SIMILAR TO FR 72 EXCEPT SPECIFIED
T. TOP
SEE AUX. MACH. SEAT
STRAINER ST. (ILV-6)
(DRW. NO. 5191075)
B. L.
FR.58
T. TOP
B. L.
FR.57
SIMILAR TO FR 70 EXCEPT SPECIFIED
SIMI. TO FR 70
T. TOP
B. L.
2102111 - 14/
FR.52
SIMILAR TO FR 54 EXCEPT SPECIFIED
T.TOP
B. L.
FR.56
T.TOP
B. L.
FR.51
T.TOP
B. L.
BOTTOM PRESRV. & O.T. TK
FR 51 1/2
T.TOP
B.L.
FR.55
T.TOP
B. L.
FR.50
T.TOP
B. L.
COFF.
BILGE TK
DETAIL
STEP
FR.54
T.TOP
B. L.
O.T.
FR.53
T.TOP
B. L.
2102111 - 15/

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN	[illegible]	
-10		FOLLOWED MES 1ST REVISED PLAN	[illegible]	
-11		Do MES PARTLY REVISED PLAN NO. A1	MAY [illegible] '85	
-12		Do No. A2	AUG. 23 '85	
-13	Ⓐ	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. DELETED TEMP. ACCESS HOLES. 2. DELETED WORKING STAGES FOR REAMER BOLT. 3. CORRECTED SIZE OF OPENING FOR SEA CHEST. 4. EXTEND L.O. SUCTION BELLMOUTH SPACE. 5. ADDED O.T. MAN HOLES ON Ⓐ SIDE GIRDER (P-SIDE) FOR L.O. SUMP TK & RESERVE L.O. TK. AND PROVIDE STEPS UNDER MAN HOLE. 6. REARRANGED PIPE HOLES ON Ⓑ SIDE GIRDER. 7. REARRANGED NON T MAN HOLE ON FR.52 SEC. AT S-SIDE IN RELATION TO PIPING ARRAGT. BASED DWG MES DWG NO. 2102111-A (INCL. PARTLY REVISED PLAN NO. A1 & A2)	AUG. 26 '85	[signature]
-14		FOLLOWED MES PARTLY REVISED PLAN NO. A3	SEP. 20 '85	[signature]
-15	Ⓑ	REINFORCED IN WAY OF PIPE HOLES ON FR.73 FLOOR AT S-SIDE DUE TO OWNER'S REQUIREMENT.	FEB. 25 '86	[signature]
-F	—	PREPARED AS FINISHED PLAN FOR S NO. 1158	MAR. 11 '87	[signature]

18 SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION	
	APPROVED: Y. Hirayama / A. Kokawa	CLASS ABS
	CHECKED: S. Furuhashi	機関室二重底構造
	DRAWN	DOUBLE BOTTOM IN ENG. RM.
	SCALE	
	ORDER 01-15800 ~~01-15800~~ ~~01-10400~~	DRAWING NO. HS-20400-F / LYKES REF. NO. 110203

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

0-1

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	Apr. 3 '85	OFTS/MES/263						
[illegible]	[illegible]	OFTS/MES-449						
[illegible]	[illegible]	OFTS/MES-[illegible]						

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SHIPYARD AND SHIP'S NO. & NAME	
~~MITSUI TAMANO~~	MITSUBISHI KOBE
~~NO.1323 DOCTOR LYKES~~	NO.1158 JAMES LYKES
~~NO.1324 ALMERIA LYKES~~	~~NO.1159 JOSEPH LYKES~~
~~NO.1325 TILLIE LYKES~~	~~NO.1164 SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — SHIP'S NO. — SHIP'S NAME

STRUCTURE DESIGN SEC. — PARTLY REVISED PLAN NO. 3

SECT. CHIEF: N. Yamamoto
機関室二重底構造
DOUBLE BOTTOM IN ENG. RM.

JOB NO.	SCALE	LYKES REF. NO.	MITSUI DRAWING NO.
TS1323/24/25	1/100	110203	2102111-A3

(3 SHEETS WITH COVER)

0-2

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWR & ABS.	Feb. 15 '85
A	A1	MISCELLANEOUS REVISION	
	A2	OWR'S REQ. TLX NO. OFTS/MES/115 DATED Feb. 25 '85 & LTR NO. OFTS/MES/263 DATED Apr. 3 '85	Apr. 12 '85
	A3	DISCUSSION RESULT BETWEEN MES AND S/T	
A1	A1	OWR'S REQ. TLX. NO OFTS/MES-319 DATED APR. 19 '85	Apr. 27 '85 J.M
	A2	MISCELLANEOUS REVISION	
A2	A1	MISCELLANEOUS REVISION	Aug. 5 '85
	A2	REVISED ACCORDING TO OWNERS REQ. (DATED 24TH MAY '85 LTR NO. OFTS/MES/449)	H.Y.
A3	A1	REVISED ACCORDING TO OWR'S COMMENT BY SUPERINTENDENT IN TAMANO	Sep. 9 '85 M.O.

DWG. NO. 2102111-1

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

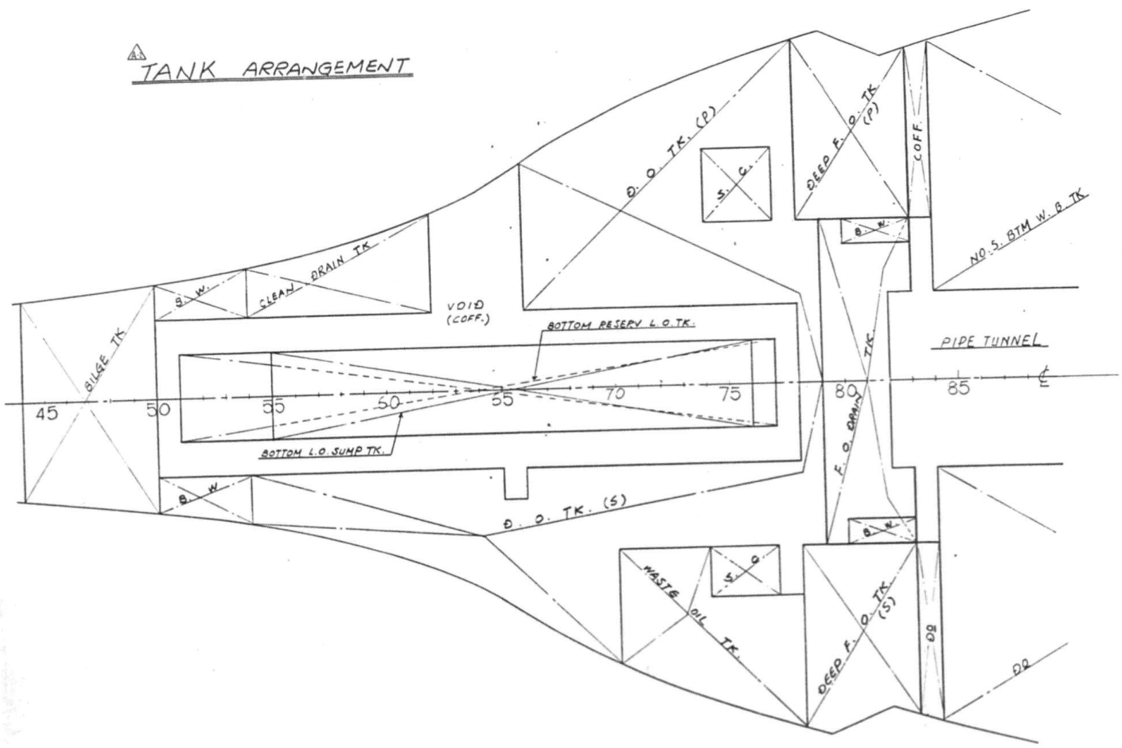
備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は"構造詳細図（図番2100811）"を参照のこと。
4. 脚接脚長については，特記の他は"脚接脚長表（図番2100832）"を参照のこと。

2102111-2

135

TANK ARRANGEMENT

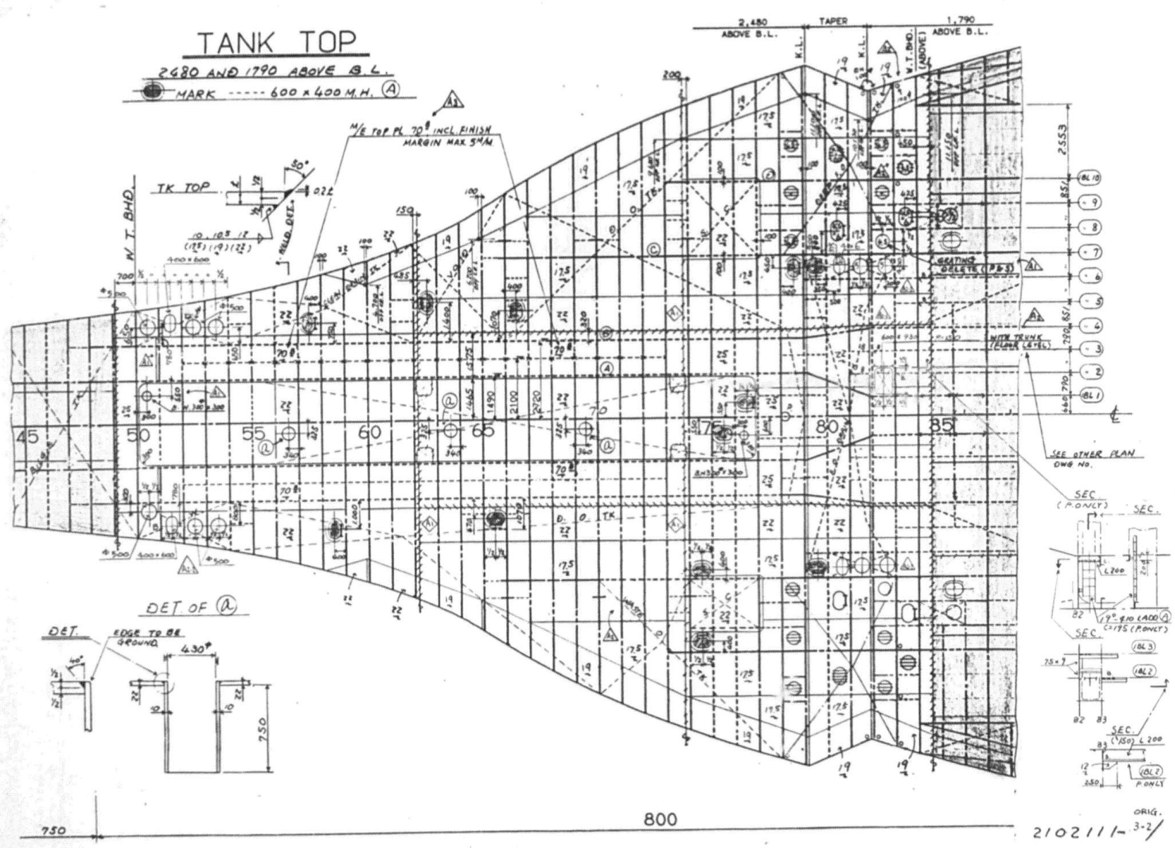


2102111 - 3-1

TANK TOP

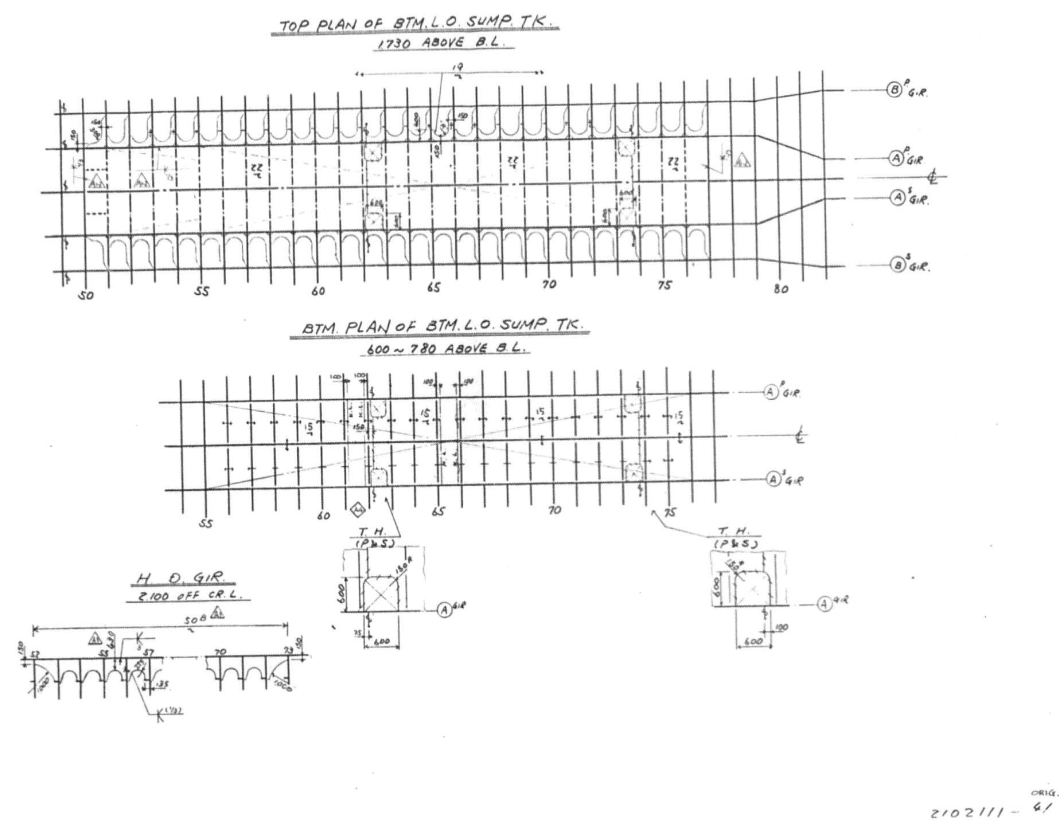
2480 AND 1790 ABOVE B.L.

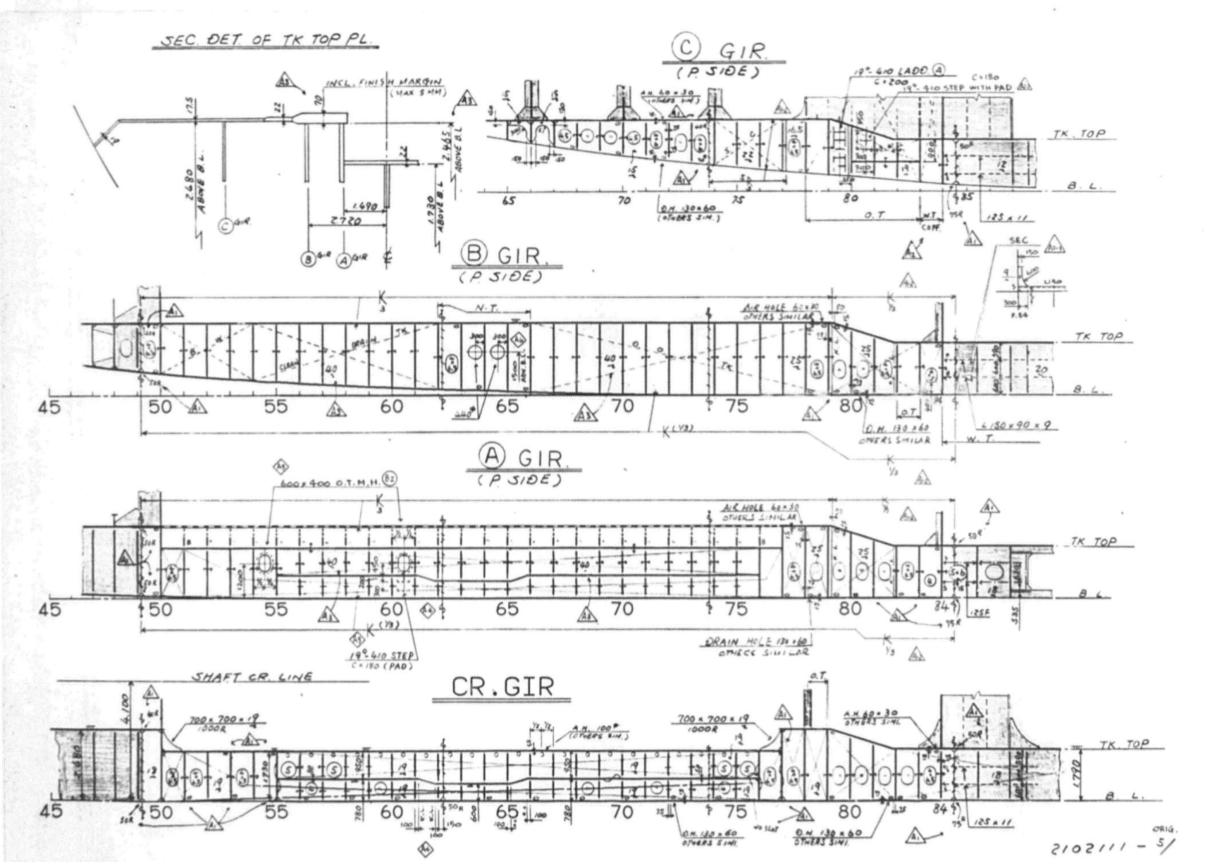
MARK ----- 600 x 400 M.H. (A)

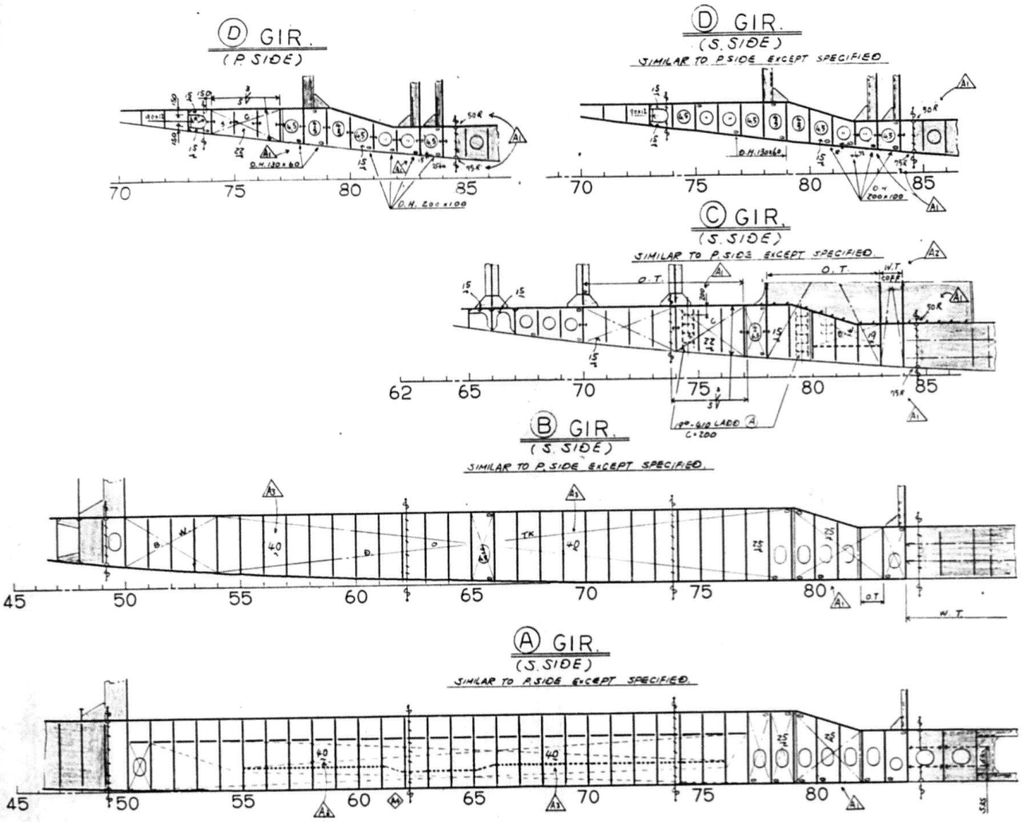


ORIG. 2102111 - 3-2

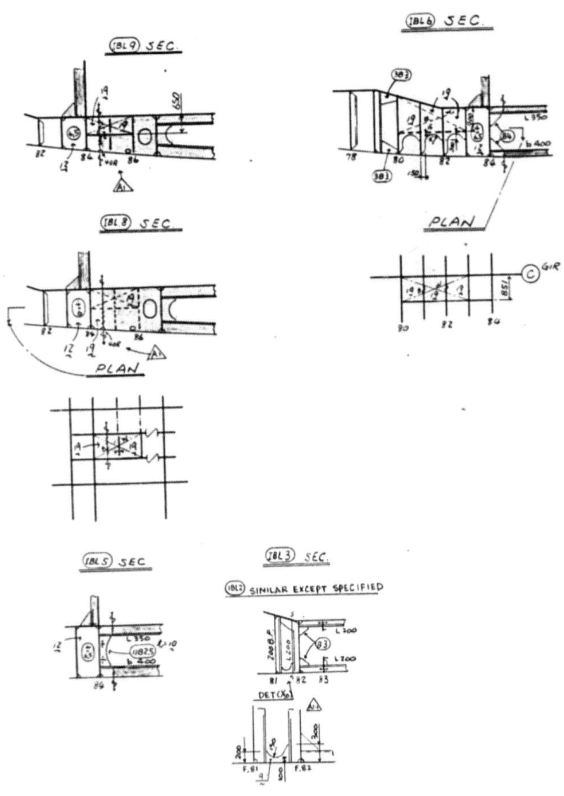
136


TOP PLAN OF BTM. L.O. SUMP TK.
1730 ABOVE B.L.
BTM. PLAN OF BTM. L.O. SUMP TK.
600 ~ 780 ABOVE B.L.
T.H. (P&S)
H.D. GIR.
2100 OFF CR.L.
2102111 - 41

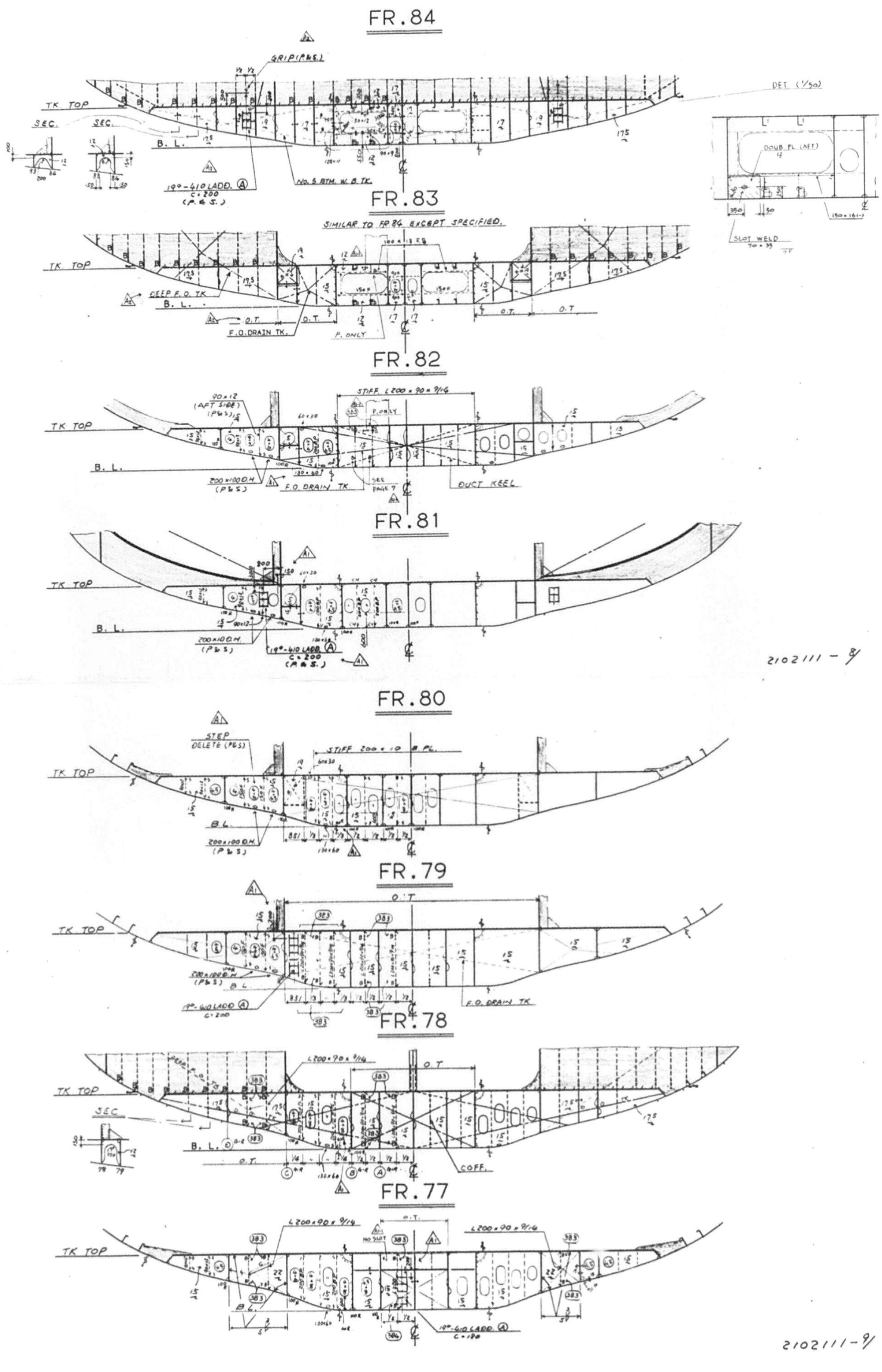

SEC. DET OF TK TOP PL.
C GIR.
(P. SIDE)
B GIR.
(P. SIDE)
A GIR.
(P. SIDE)
CR. GIR
SHAFT CR. LINE
TK. TOP
B.L.
2102111 - 51



2102111 - 6/



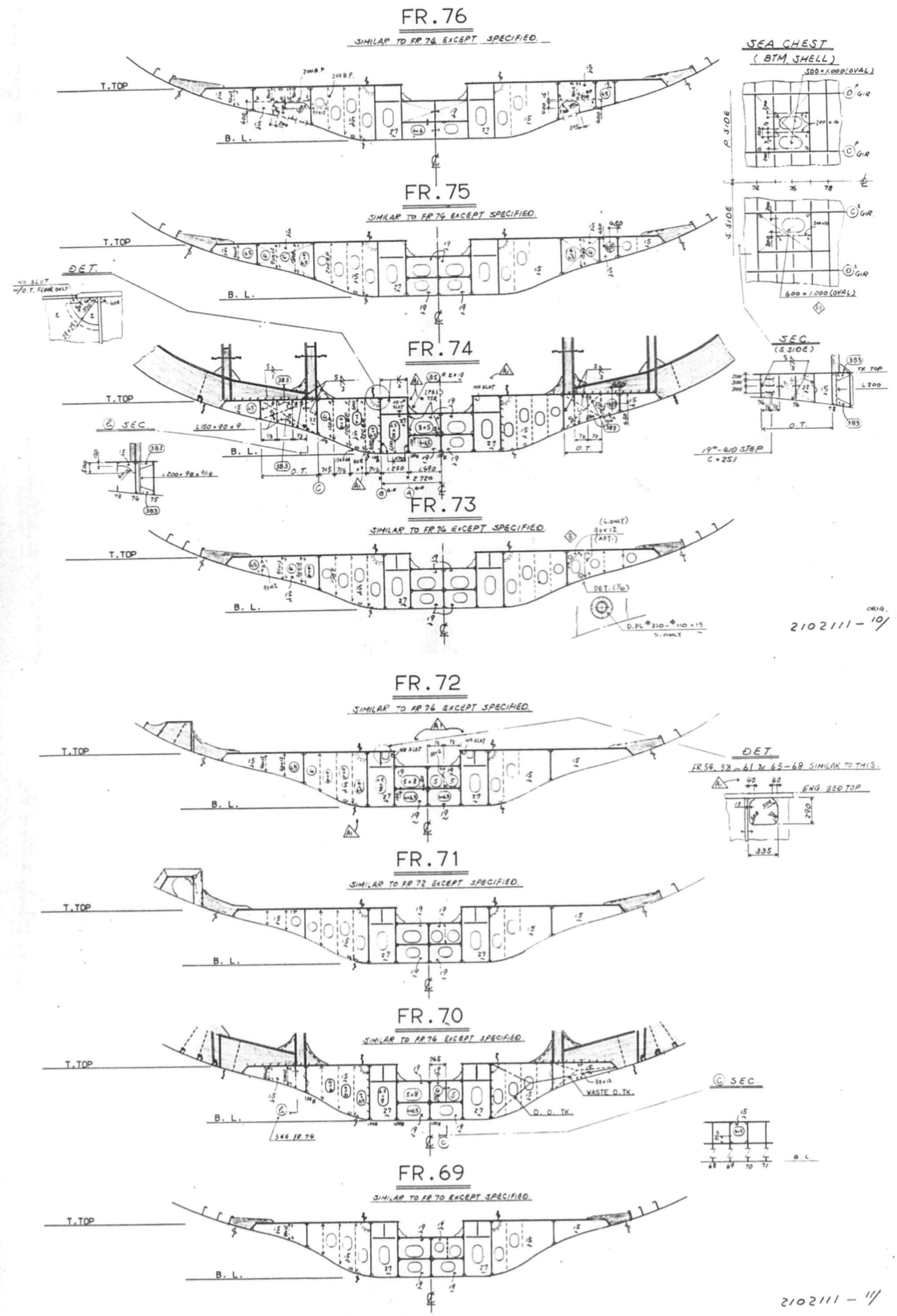
2102111 - 7/



2102111 - 8/

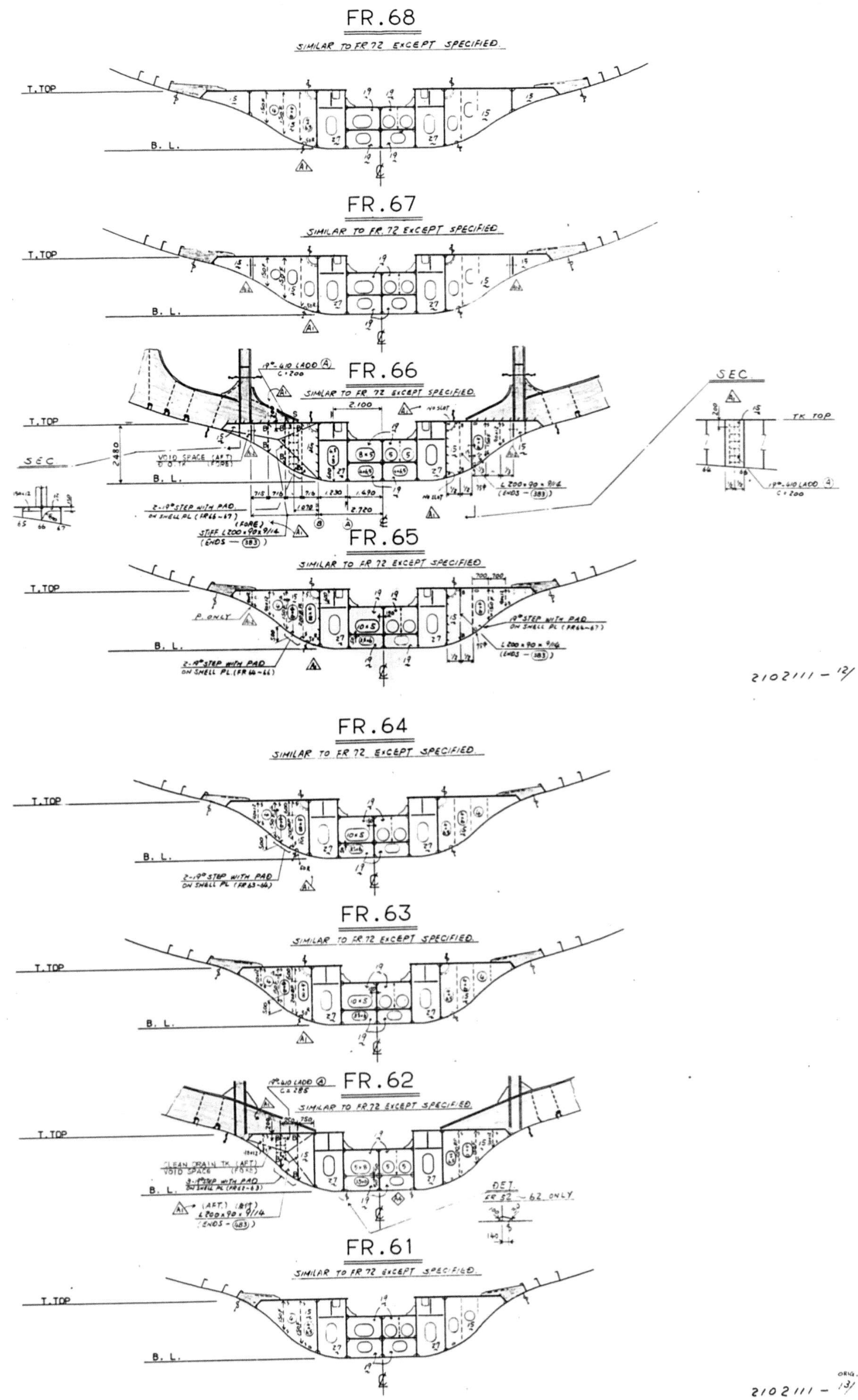
2102111 - 9/

139



FR.76
SIMILAR TO FR.74 EXCEPT SPECIFIED.
FR.75
SIMILAR TO FR.74 EXCEPT SPECIFIED.
FR.74
FR.73
SIMILAR TO FR.74 EXCEPT SPECIFIED.
FR.72
SIMILAR TO FR.74 EXCEPT SPECIFIED.
FR.71
SIMILAR TO FR.72 EXCEPT SPECIFIED.
FR.70
SIMILAR TO FR.74 EXCEPT SPECIFIED.
FR.69
SIMILAR TO FR.70 EXCEPT SPECIFIED.
T.TOP
B. L.
SEA CHEST
(BTM. SHELL)
500×1,000(OVAL)
600×1,000(OVAL)
P SIDE
S SIDE
SEC.
(S SIDE)
O.T.
DET.
WASTE O.TK.
D. O. TK.
SEE FR.74
DET.
FR.54, 58~61 & 65~68 SIMILAR TO THIS.
ENG. SEO TOP
2102111 - 10/
2102111 - 11/

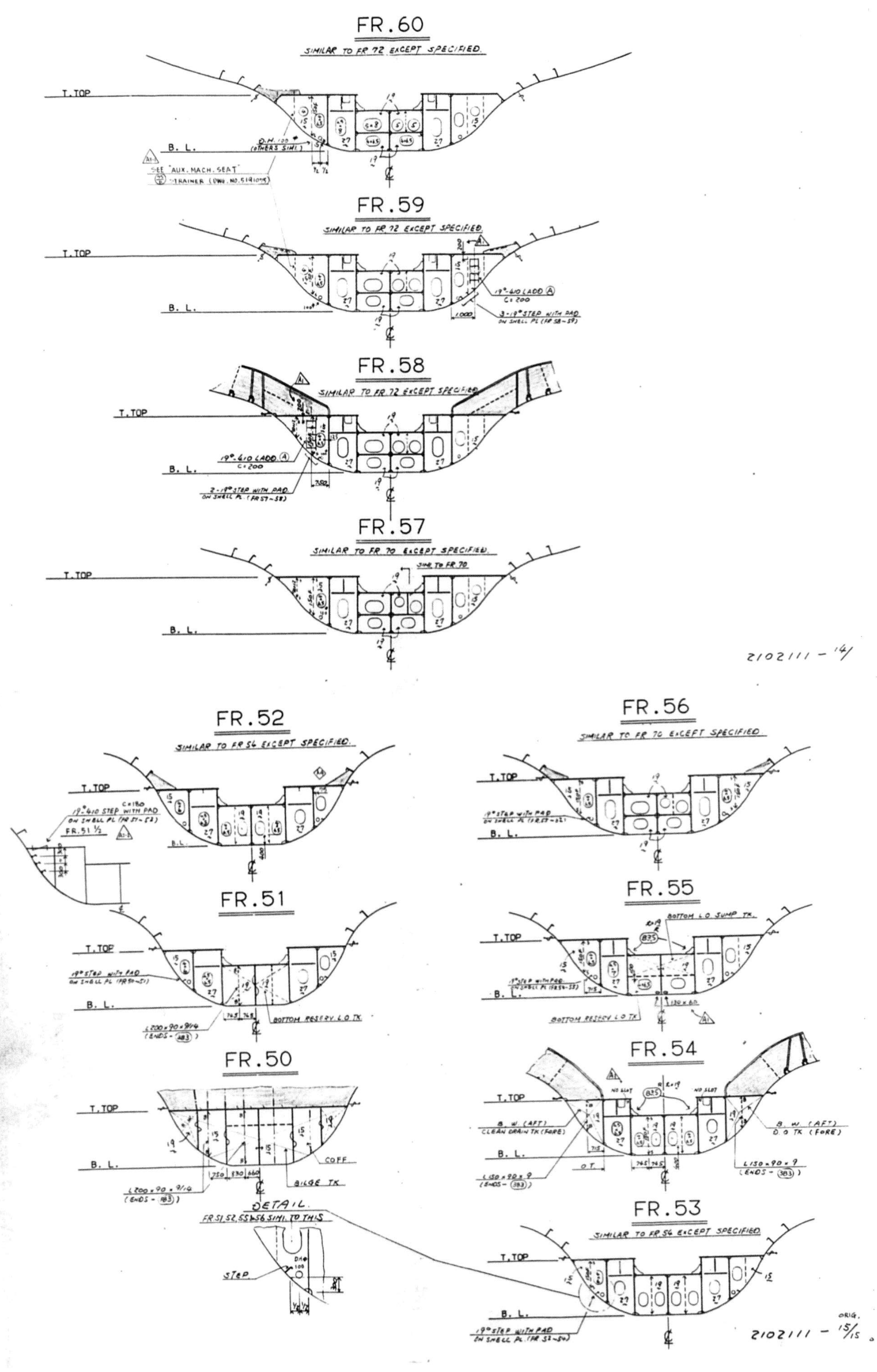
140



2102111 - 12/

2102111 - 13/

141



FR. 60
SIMILAR TO FR. 72 EXCEPT SPECIFIED.
FR. 59
SIMILAR TO FR. 72 EXCEPT SPECIFIED.
FR. 58
SIMILAR TO FR. 72 EXCEPT SPECIFIED.
FR. 57
SIMILAR TO FR. 70 EXCEPT SPECIFIED.
2102111 - 14/
FR. 52
SIMILAR TO FR. 56 EXCEPT SPECIFIED.
FR. 56
SIMILAR TO FR. 70 EXCEPT SPECIFIED
FR. 51
FR. 55
BOTTOM L.O. SUMP TK.
BOTTOM RESERV. L.O. TK.
FR. 50
FR. 54
DETAIL
FR. 53
SIMILAR TO FR. 56 EXCEPT SPECIFIED
2102111 - 15/15

142

APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	8-FEB-'85	OFTS/MES/070			17JUL'85	7-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
STRUCTURE DESIGN SEC.

SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

KEY PLAN

水,油密隔壁及横断面
W.T.,O.T. BHD. & TRANS. SECTIONS
(FORE)

1/2

JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 110501 — MITSUI DRAWING NO. 2100041

(45 SHEETS WITH COVER)

PLAN RECORD			
ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV. 28 '86

DWG. NO. 2100041-1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
5. REFER TO "MID SHIP SECTION (DWG NO. 2100011)" FOR MATERIALS & SYMBOLS EXCEPT SPECIFIED.

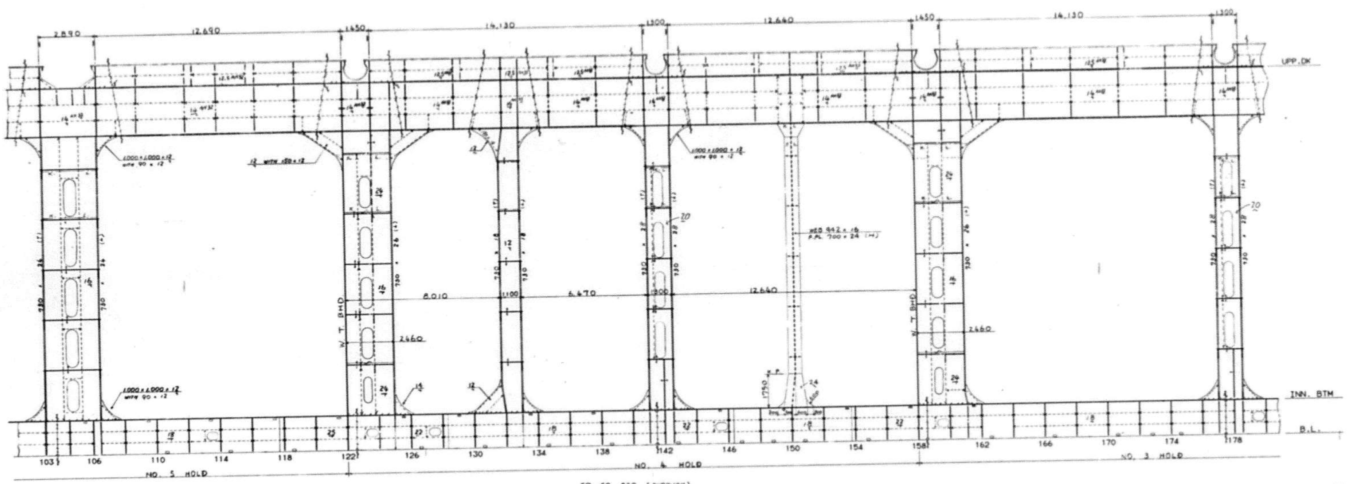
備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は'構造詳細図(図番2100811)'を参照のこと。
4. 溶接脚長については，特記の他は'溶接脚長表(図番2100832)'を参照のこと。
5. 材料および符号については，特記の他は'中央切断図(図番2100011)'を参照のこと。

2100041-2/

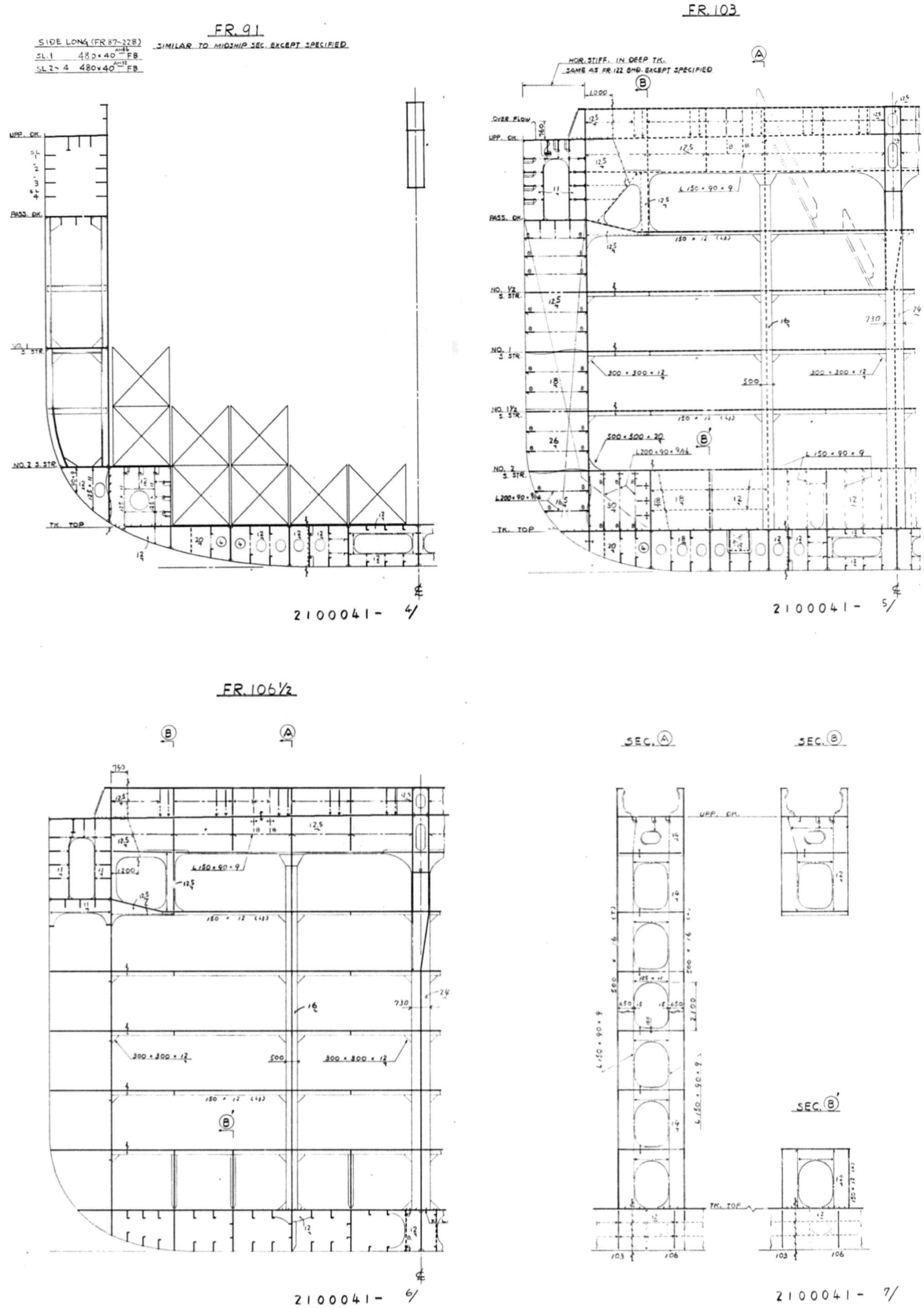
143

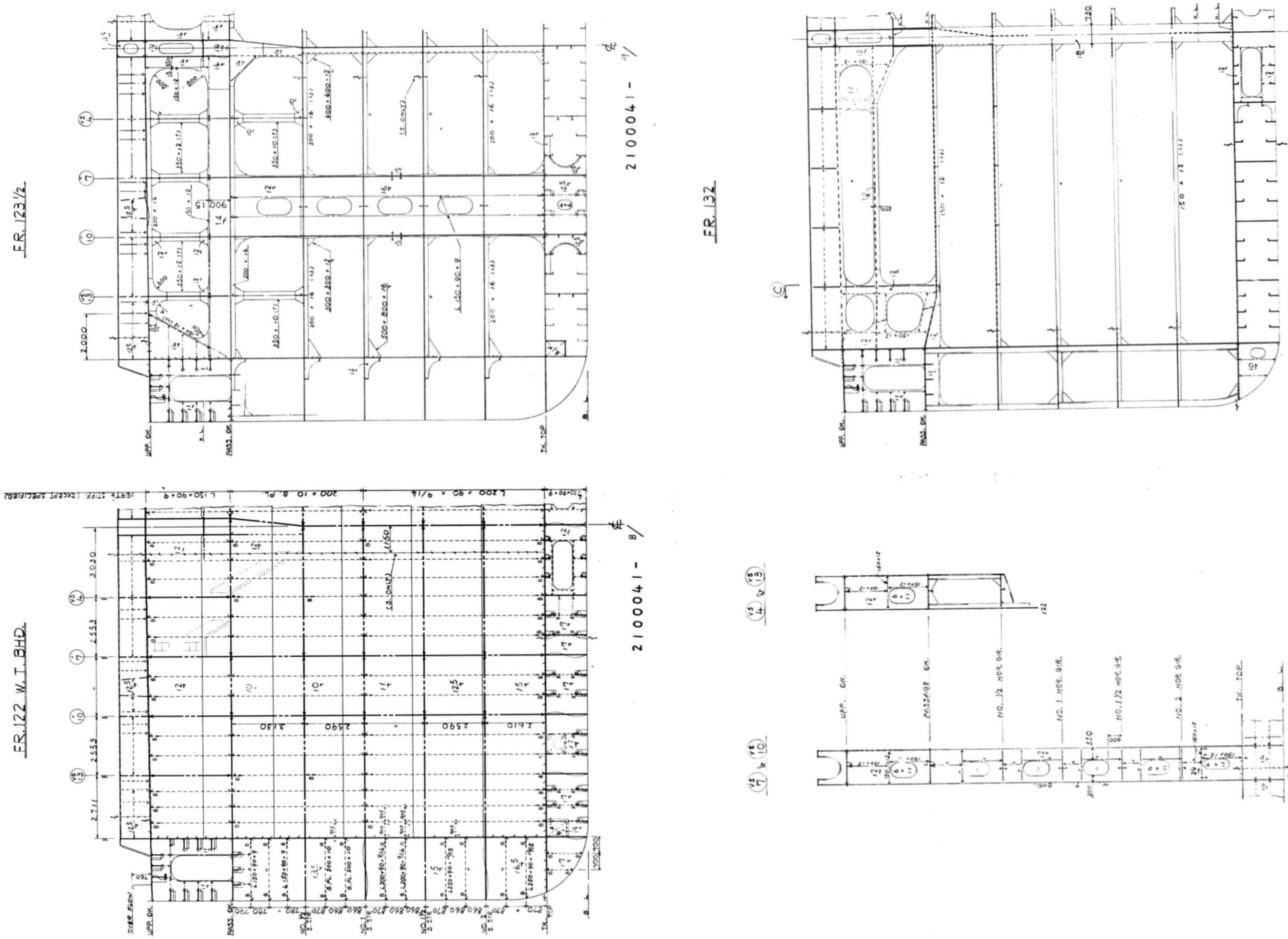
CENTER LINE SEC.



Z100041- 3/

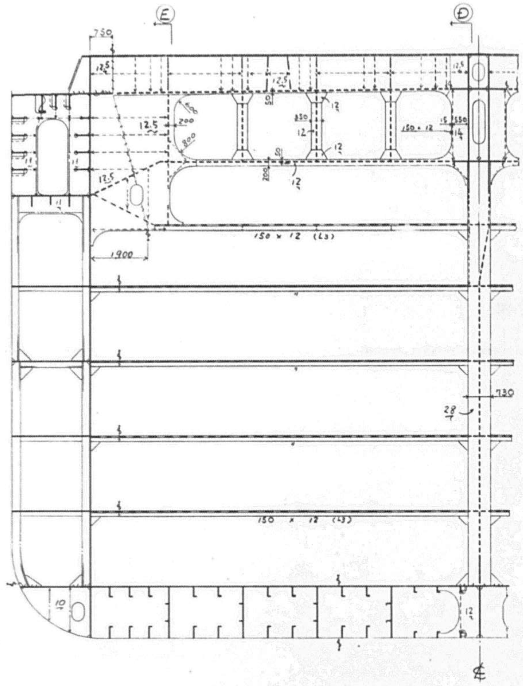
144


FR.91
SIDE LONG (FR.87~228)
SL.1 480×40 FB
SL.2~4 480×40 FB
SIMILAR TO MIDSHIP SEC. EXCEPT SPECIFIED
UPP. DK.
PASS. DK.
NO.1 S. STR.
NO.2 S. STR.
TK. TOP
2100041- 4/
FR.103
HOR. STIFF. IN DEEP TK.
SAME AS FR.122 BHD. EXCEPT SPECIFIED
OVER FLOW
UPP. DK.
PASS. DK.
NO.½ S. STR.
NO.1 S. STR.
NO.1½ S. STR.
NO.2 S. STR.
TK. TOP
2100041- 5/
FR.106½
2100041- 6/
SEC.Ⓐ
SEC.Ⓑ
SEC.Ⓑ′
UPP. DK.
TK. TOP
2100041- 7/



146

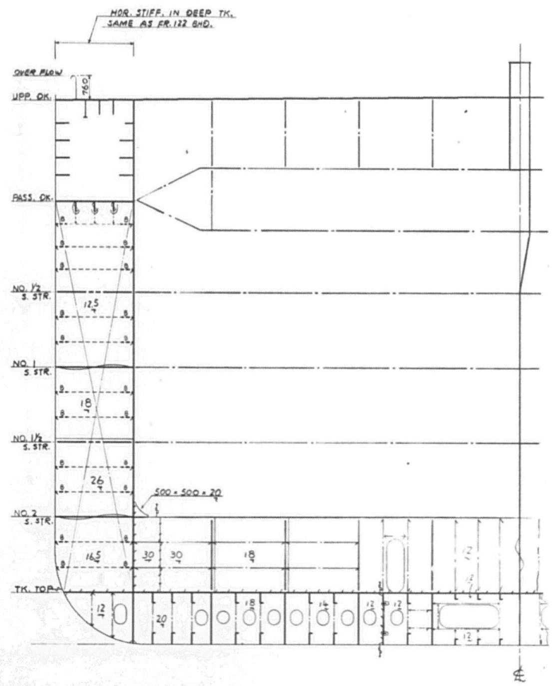
FR. 141



2100041- 12/

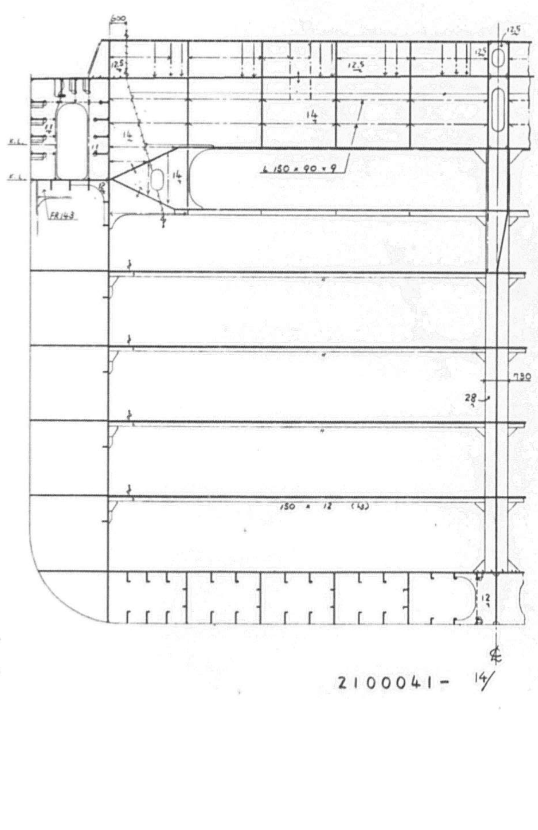
FR. 142

SIMILAR TO MIDSHIP SEC. EXCEPT SPECIFIED



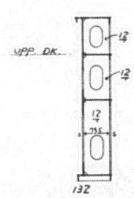
2100041- 13/

FR. 142 1/2

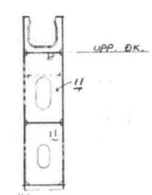


2100041- 14/

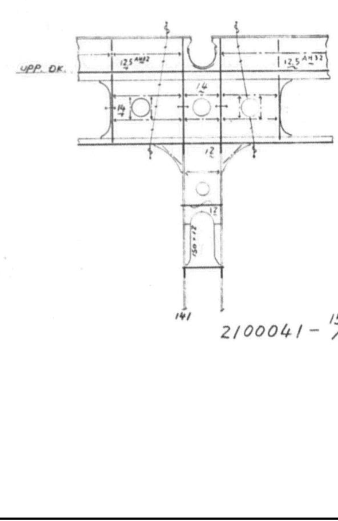
SEC. ©



SEC. Ⓔ

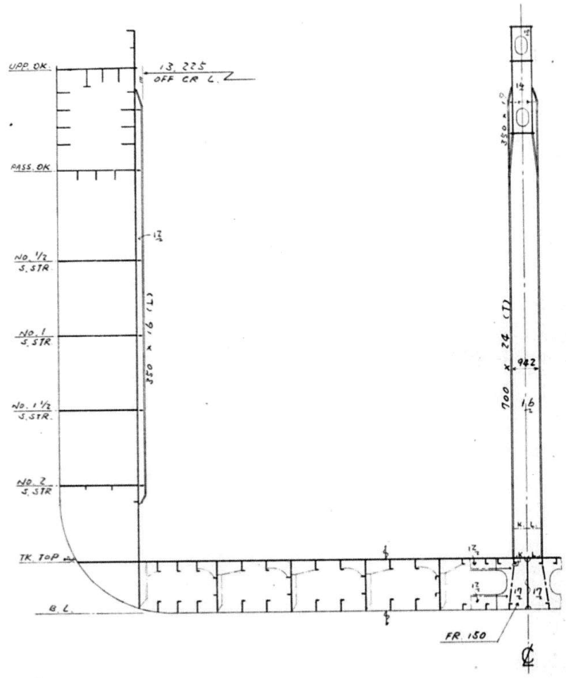


SEC. Ⓓ



2100041- 15/

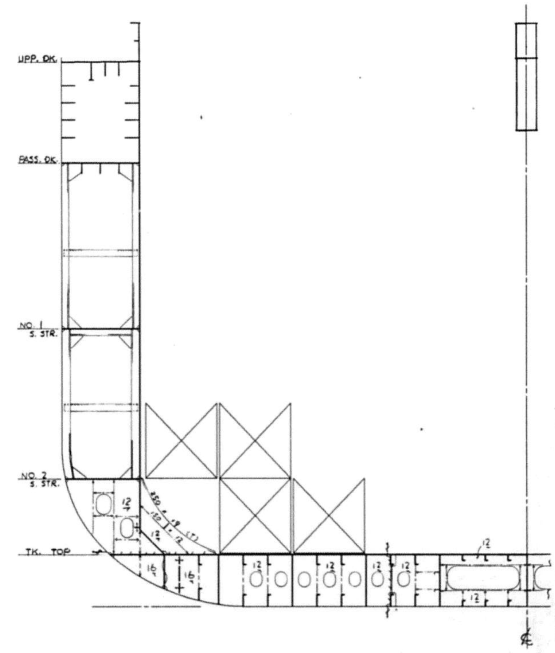
FR. 150 +193 m/m



2100041- 16/

FR. 166

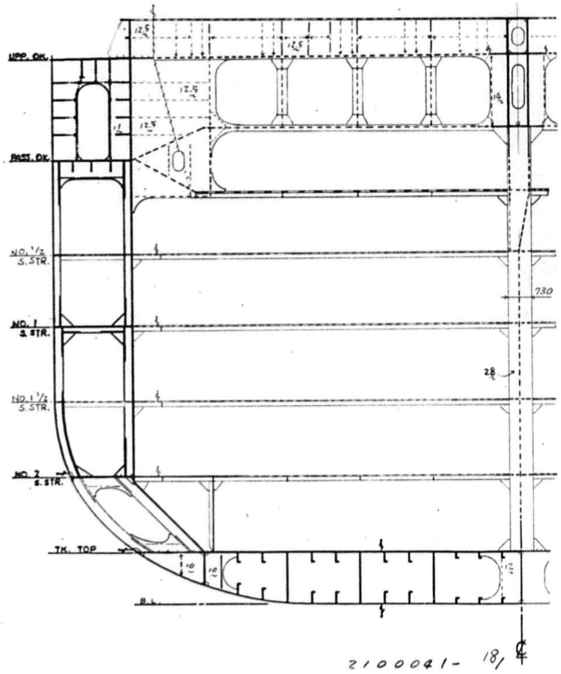
SIMILAR TO MIDSHIP SEC. EXCEPT SPECIFIED



2100041- 17/

FR. 177

SIMILAR TO FR. 181 SEC. EXCEPT SPECIFIED.

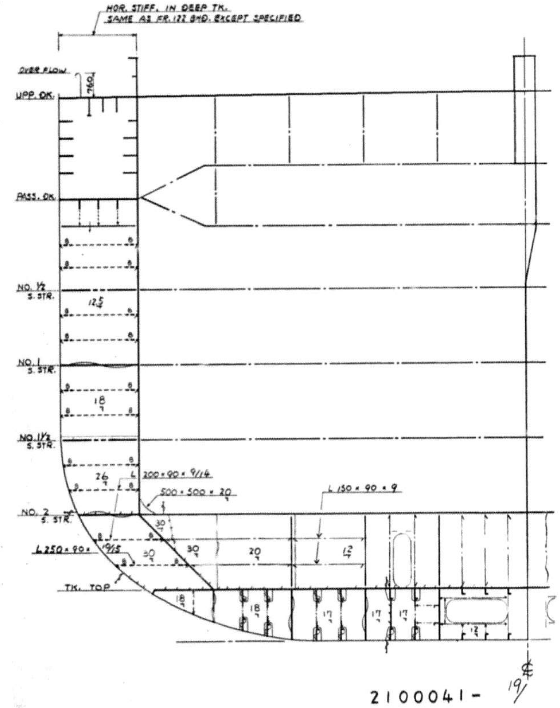


2100041- 18/

FR. 178

SIMILAR TO MIDSHIP SEC. EXCEPT SPECIFIED

HOR. STIFF. IN DEEP TK.
SAME AS FR. 172 BHD. EXCEPT SPECIFIED

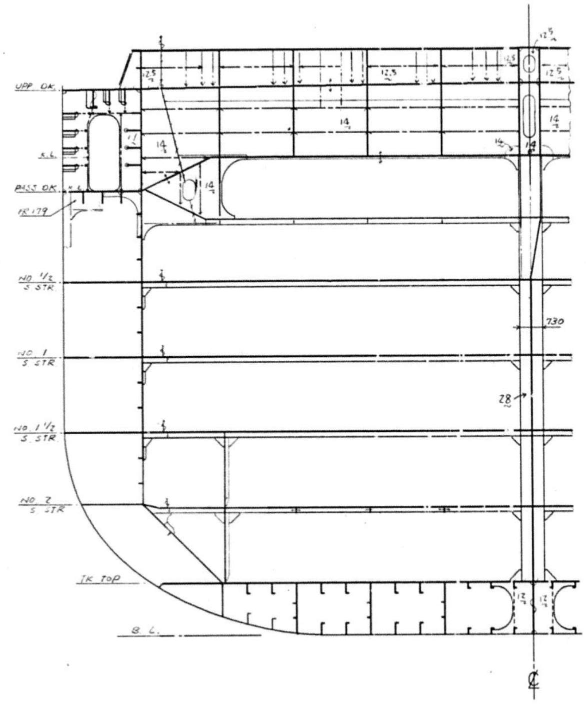


2100041- 19/

148

FR.178-1/2

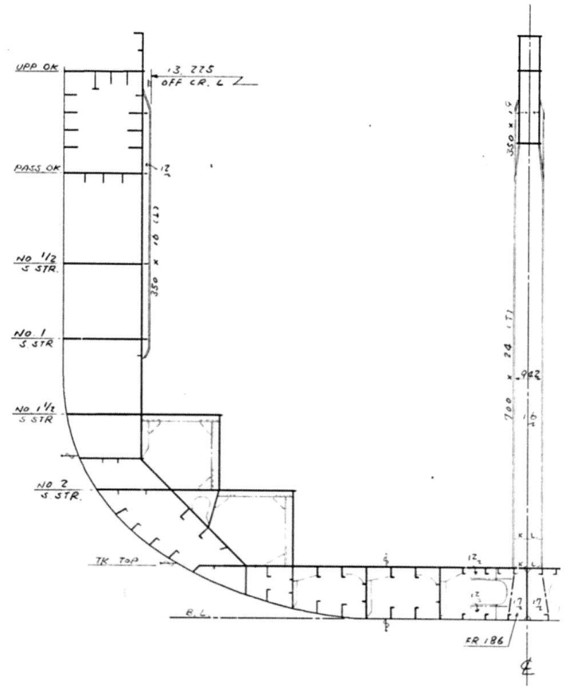
SIMILAR TO FR.142-1/2 SEC.EXCEPT SPECIFIED.



2100041- 20/

FR. 186 +193m/m

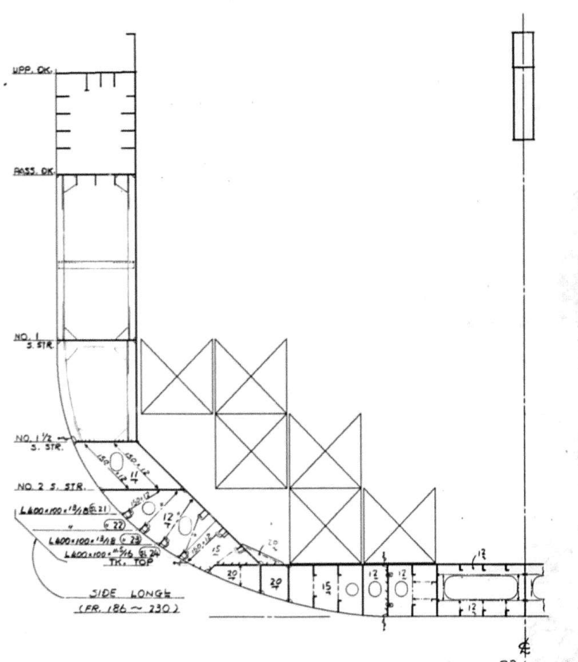
SIMILAR TO FR.180+193 SEC.EXCEPT SPECIFIED.



2100041- 21/

FR.190

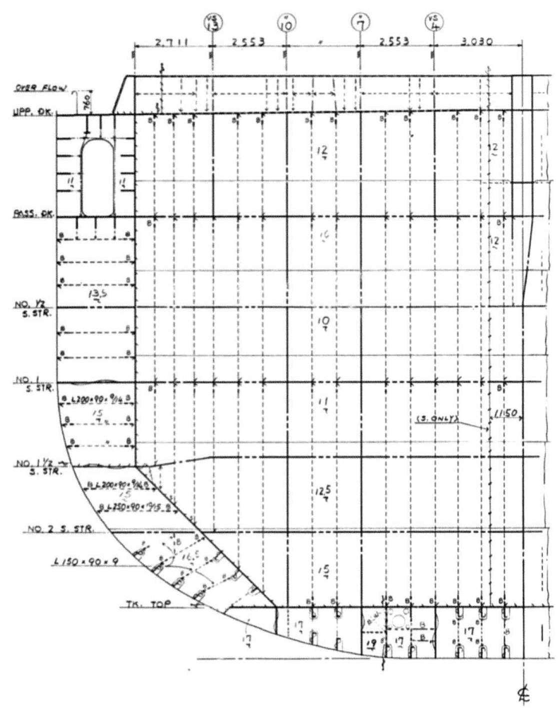
SIMILAR TO MIDSHIP SEC. EXCEPT SPECIFIED



2100041- 22/

FR. 194 W.T. BHD.

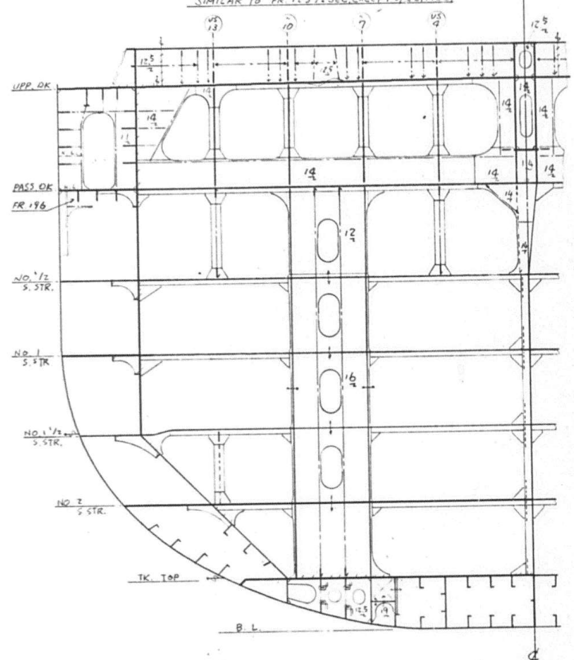
SIMILAR TO FR.122 BHD. EXCEPT SPECIFIED



2100041- 23/

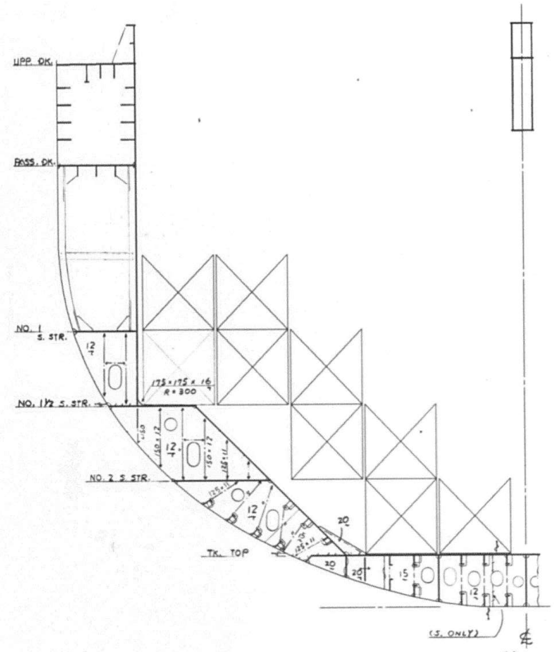
FR.195 1/2

SIMILAR TO FR.123 1/2 SEC. EXCEPT SPECIFIED.



2100041- 24/

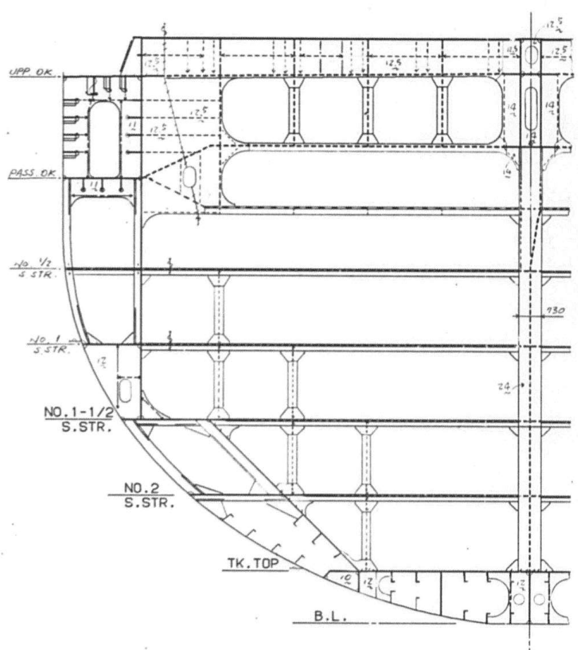
FR. 210



2100041- 25/

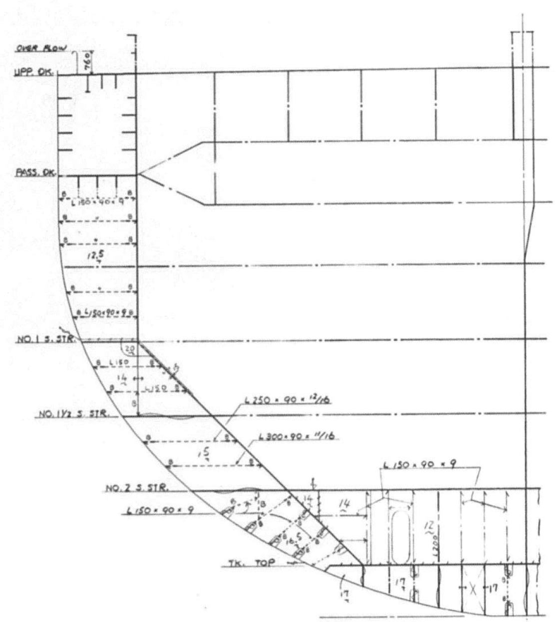
FR.213

SIMILAR TO FR.141 SEC. EXCEPT SPECIFIED.



2100041- 26/

FR. 214

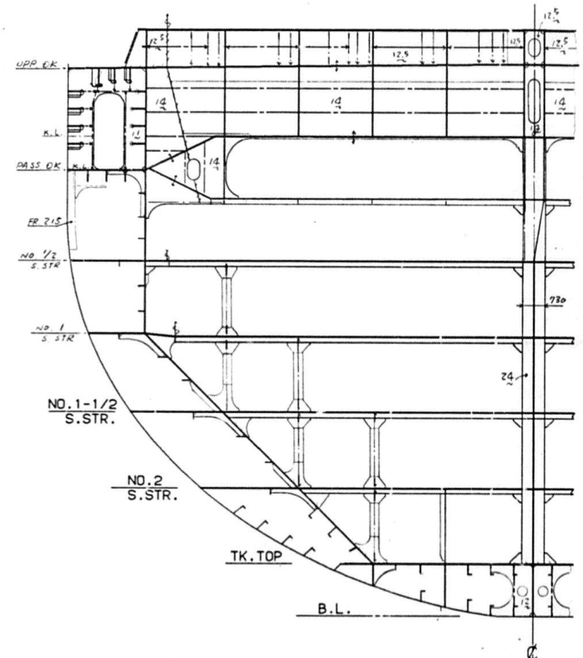


2100041- 27/

150

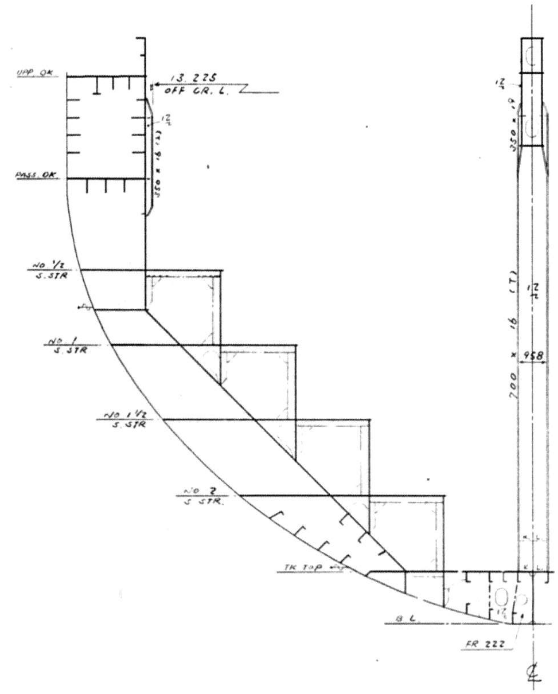
FR.214-1/2

SIMILAR TO FR.142-1/2 SEC.EXCEPT SPECIFIED.



2100041- 28/

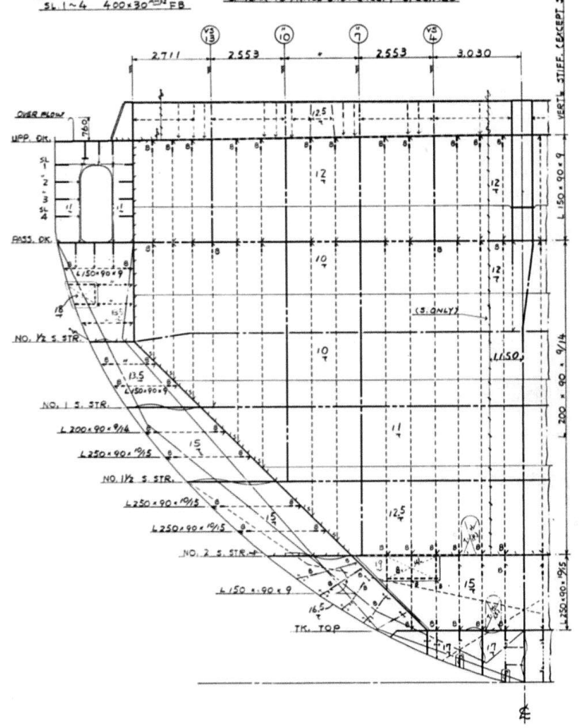
FR. 222 +193 m/m



2100041- 29/

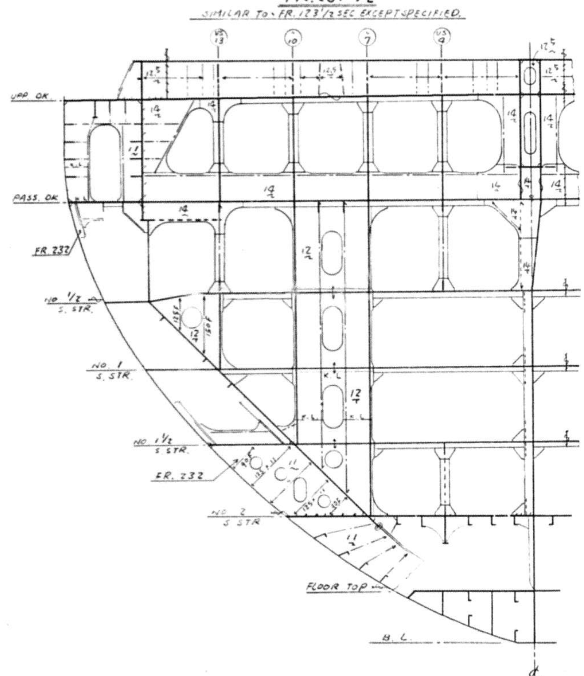
SIDE LONG. (FR 228~246)

FR. 230 W. T. BHD.



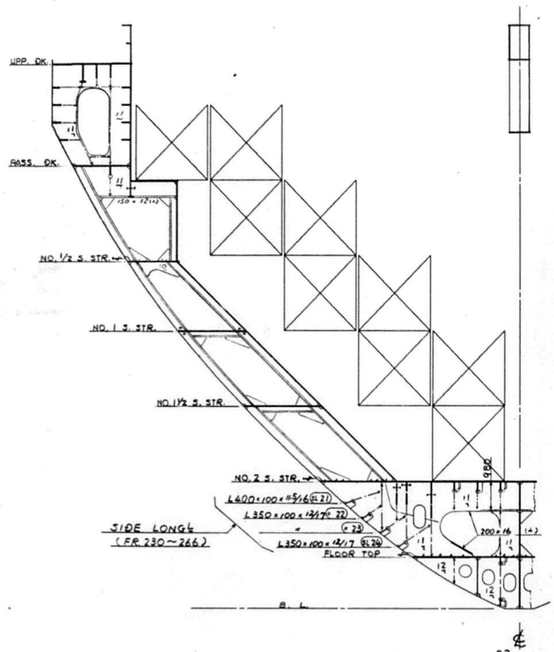
2100041- 30/

FR. 231 1/2



2100041- 31/

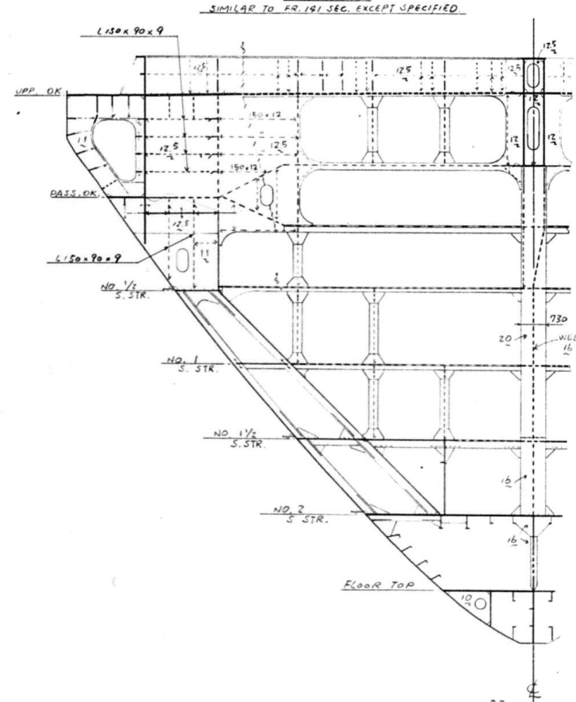
FR. 242



2100041- 32/

FR. 249

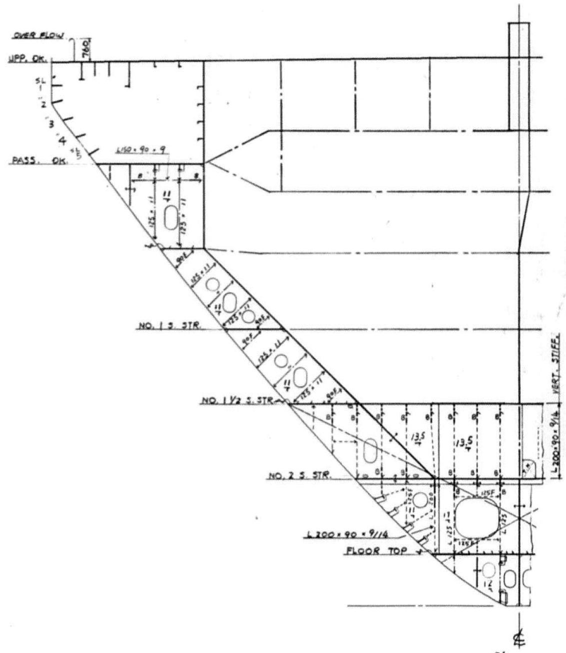
SIMILAR TO FR. 141 SEC. EXCEPT SPECIFIED



2100041- 33/

FR. 250

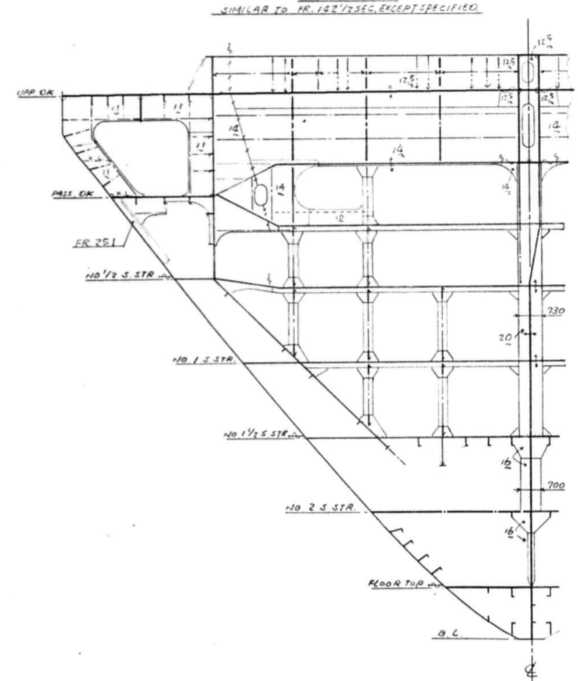
SIDE LONG (FR 246~268)
SL. 1~5 300×30 FB



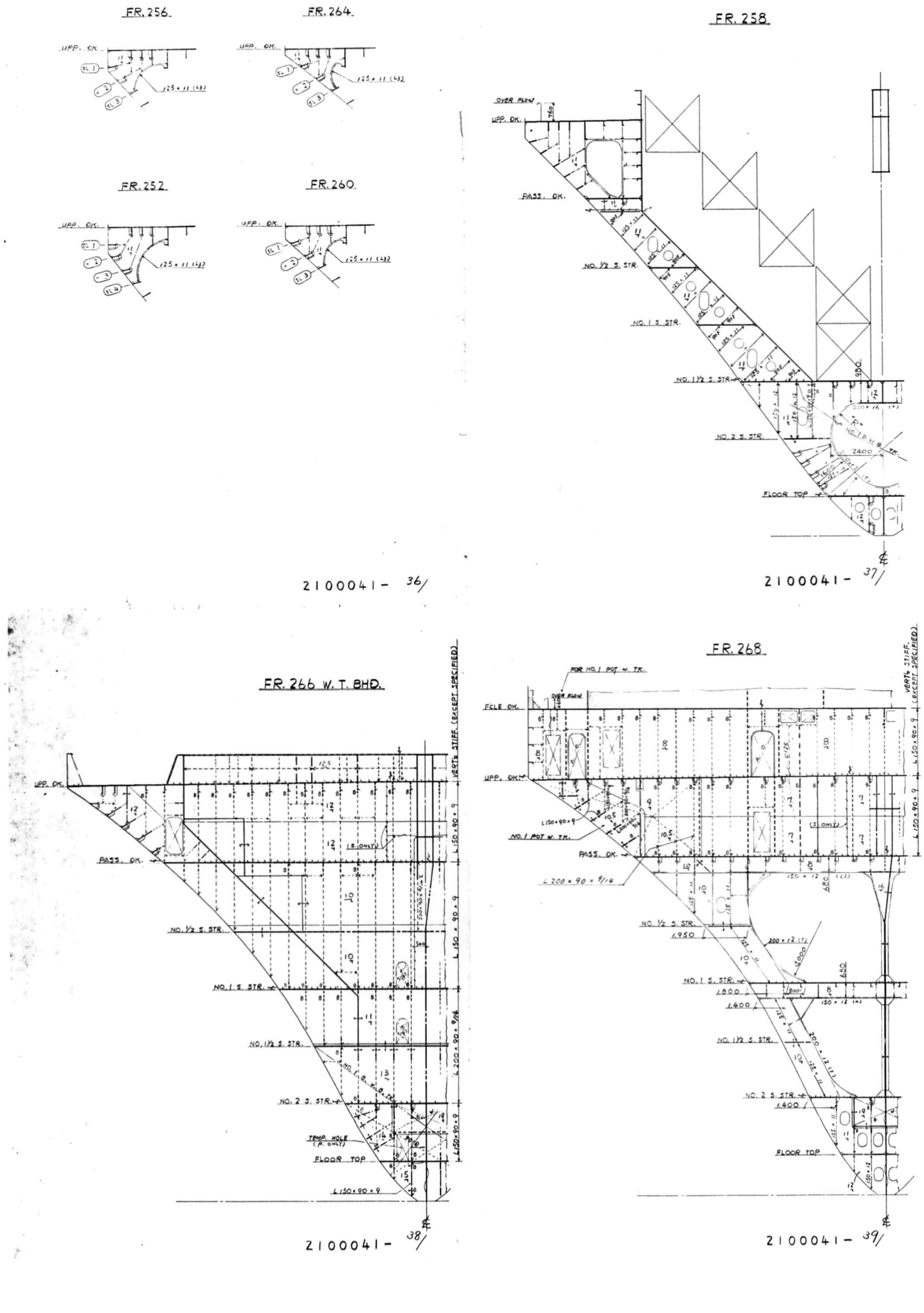
2100041- 34/

FR. 250 1/2

SIMILAR TO FR. 142 1/2 SEC. EXCEPT SPECIFIED

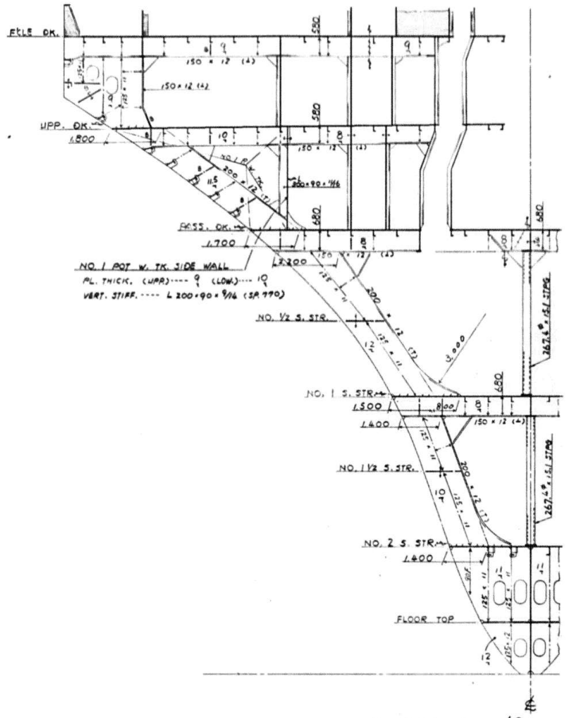


2100041- 35/



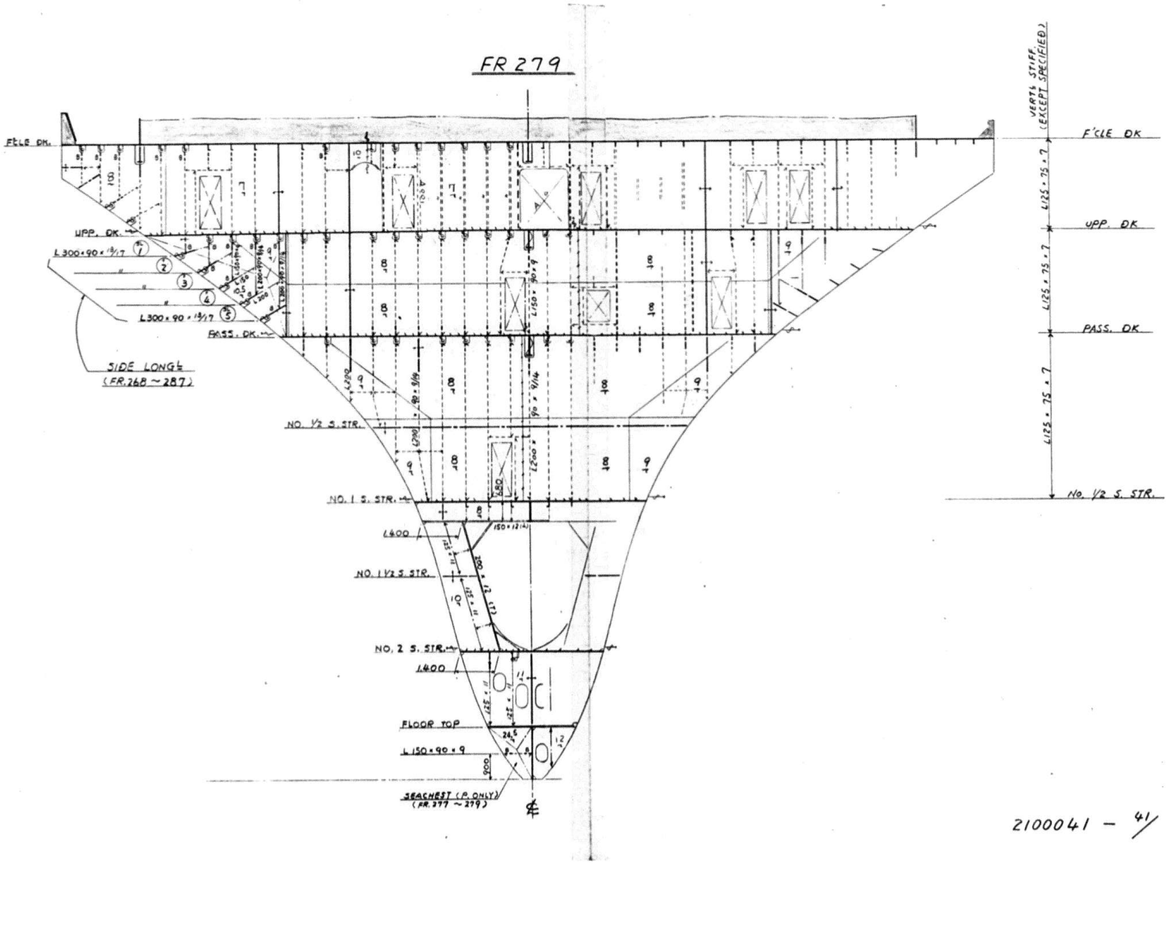
FR. 256.
FR. 264.
FR. 252
FR. 260
FR. 258
UPP. DK.
OVER FLOW
PASS. DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
FLOOR TOP
2100041- 36/
2100041- 37/
FR. 266 W. T. BHD.
VERT. STIFF. (EXCEPT SPECIFIED)
TEMP. HOLE (P. ONLY)
2100041- 38/
FR. 268
FCLE DK.
FOR NO. 1 POT W. TK.
NO. 1 POT W. TK.
2100041- 39/

FR.275



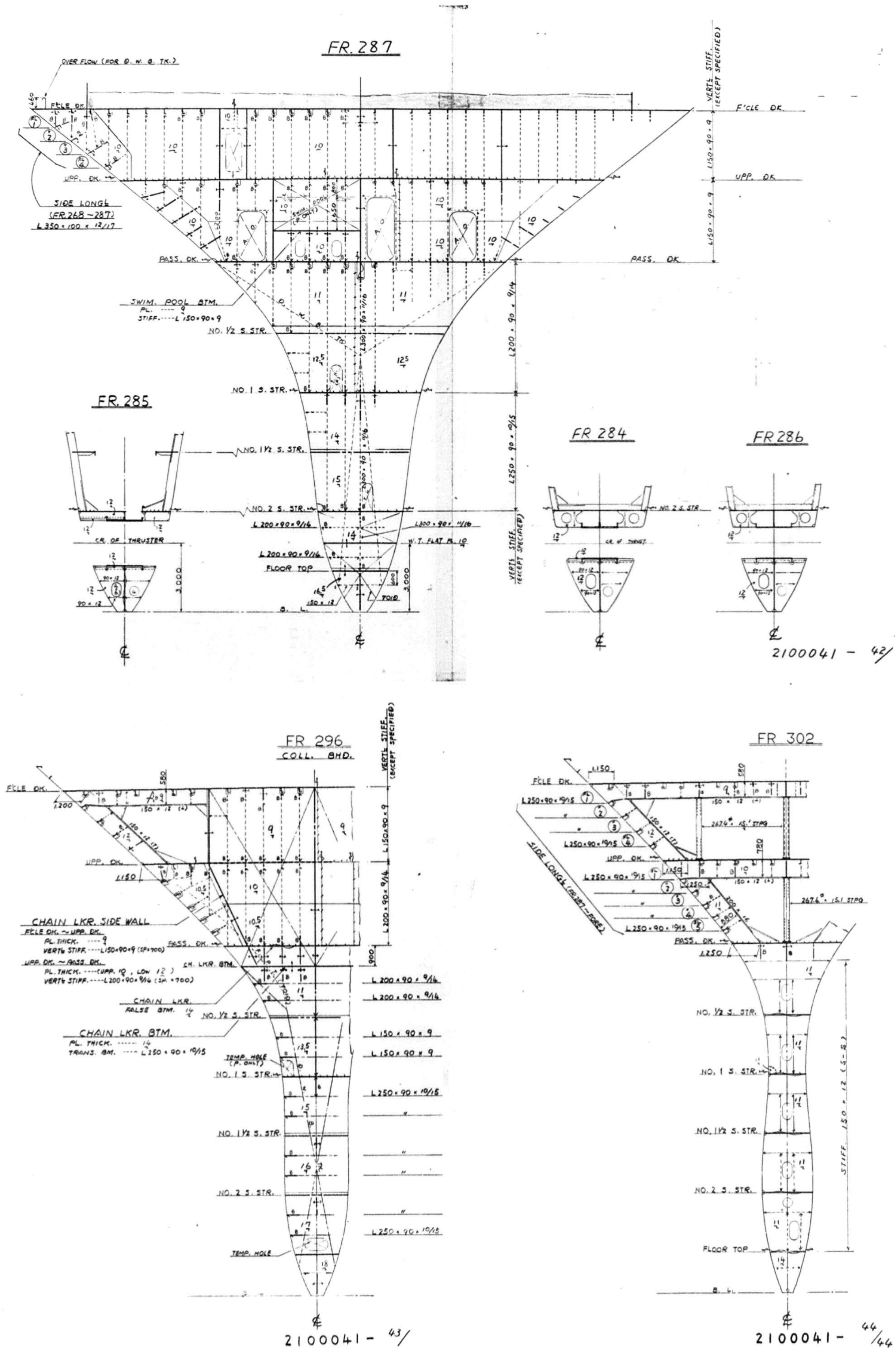
2100041 - 40/

FR 279



2100041 - 41/

154



FR. 287
F'CLE DK.
UPP. DK.
PASS. DK.
SWIM. POOL BTM.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
FLOOR TOP
FR. 285
CR. OF THRUSTER
FR 284
FR 286
2100041 - 42/
FR 296
COLL. BHD.
CHAIN LKR. SIDE WALL
CHAIN LKR. BTM.
TEMP. HOLE
2100041 - 43/
FR 302
FLOOR TOP
2100041 - 44/44

155

APPROVAL OF OWNER & REGULATORY BODIES								
ALT.NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	8-FEB.'85	[illegible]-MES/070			3 JUL'86	T-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC.CHIEF

SHIP'S NO. 1325 — SHIP'S NAME **TILLIE LYKES**

KEY PLAN

水,油密隔壁及横断面
W.T.,O.T. BHD. & TRANS. SECTIONS
(A F T)

(2/2)

DATE (TEL. 2430)
JOB NO. TS1323/24/25
SCALE 1/100
LYKES REF. NO. 110502
MITSUI DRAWING NO. 2100042
JOBCLASSIF.NO.

(28 SHEETS WITH COVER)

PLAN RECORD			
ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV. 28.'86

DWG.NO. 2100042-1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
5. REFER TO "MID SHIP SECTION (DWG NO. 2100011)" FOR MATERIALS & SYMBOLS EXCEPT SPECIFIED.

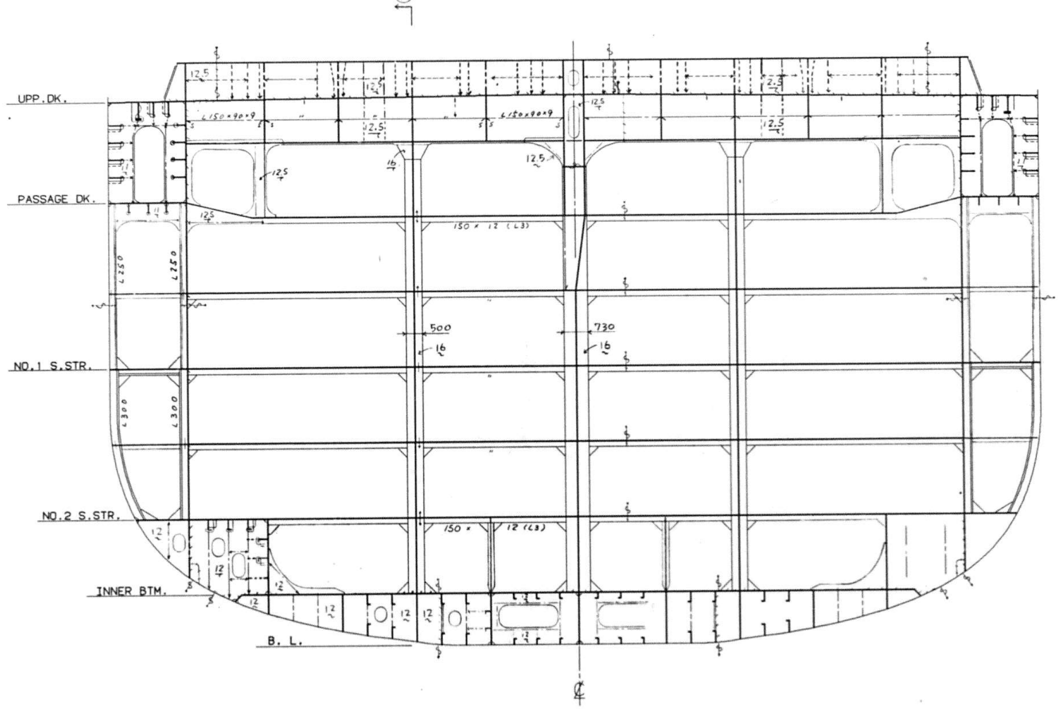
備 考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は"構造詳細図(図番2100811)"を参照のこと。
4. 溶接脚長については，特記の他は"溶接脚長表(図番2100832)"を参照のこと。
5. 材料および符号については，特記の他は"中央切断図(図番2100011)"を参照のこと。

2100042-2/

156

FR.87

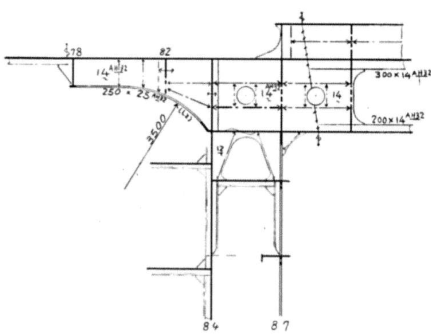


2100042-3/

CENTER BOX GIR.

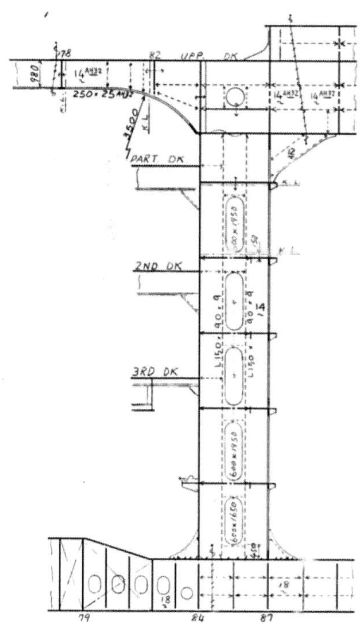
(P.SIDE)

SIMILAR TO S.SIDE EXCEPT SPECIFIED

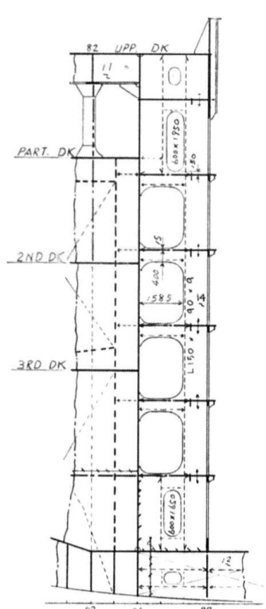


CENTER BOX GIR.

(S.SIDE)

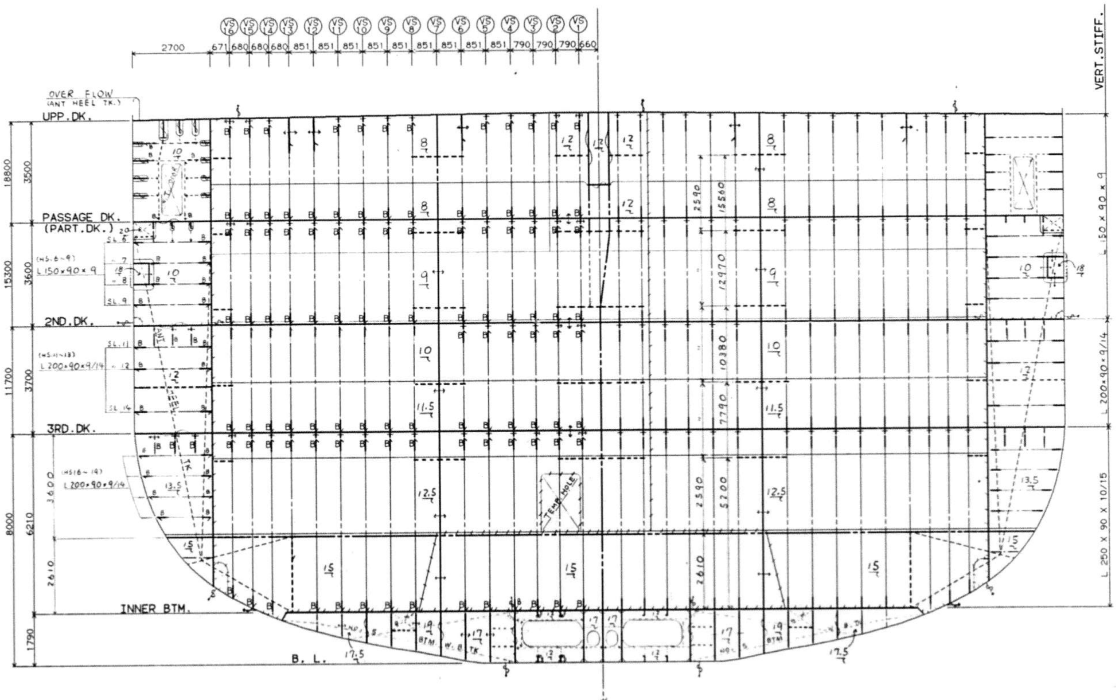


SEC. Ⓐ



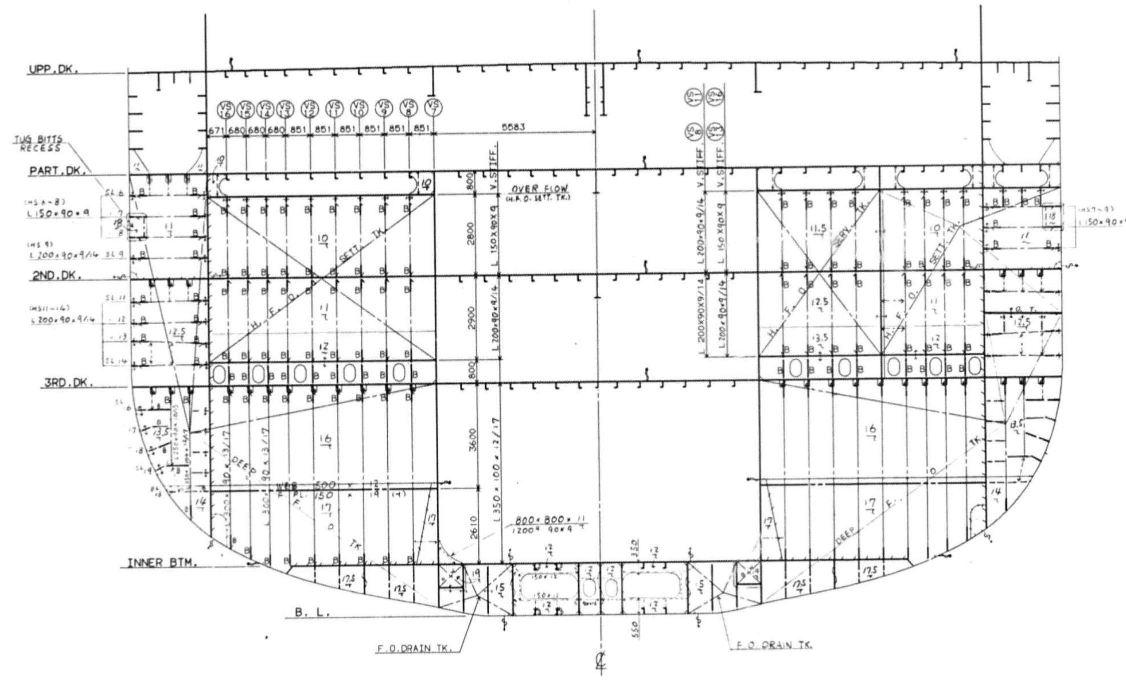
2100042-4/

FR.84 W.T.BHD.

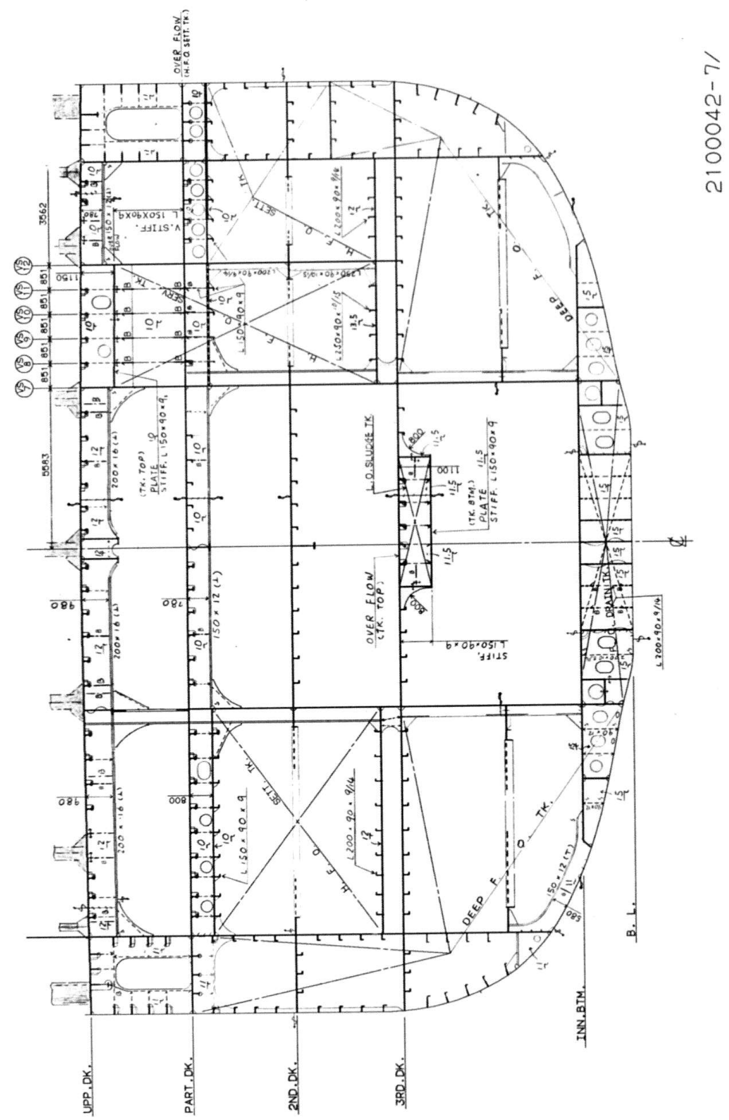


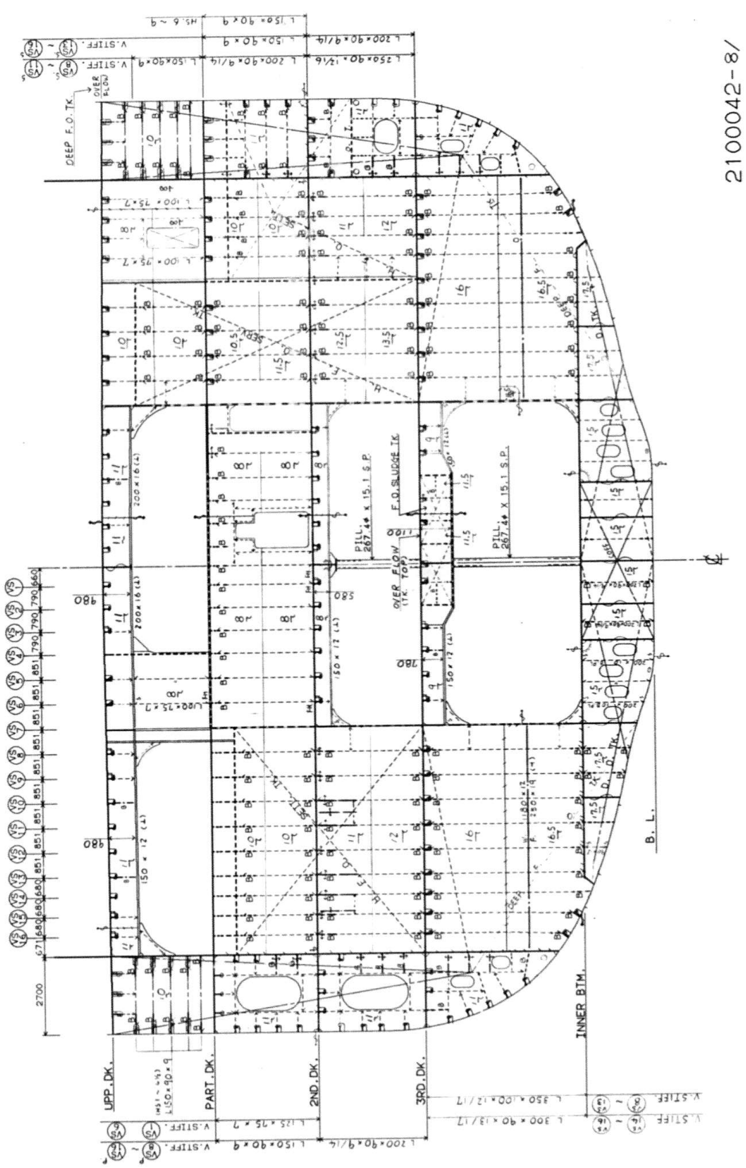
2100042-5/

FR.83



2100042-6/

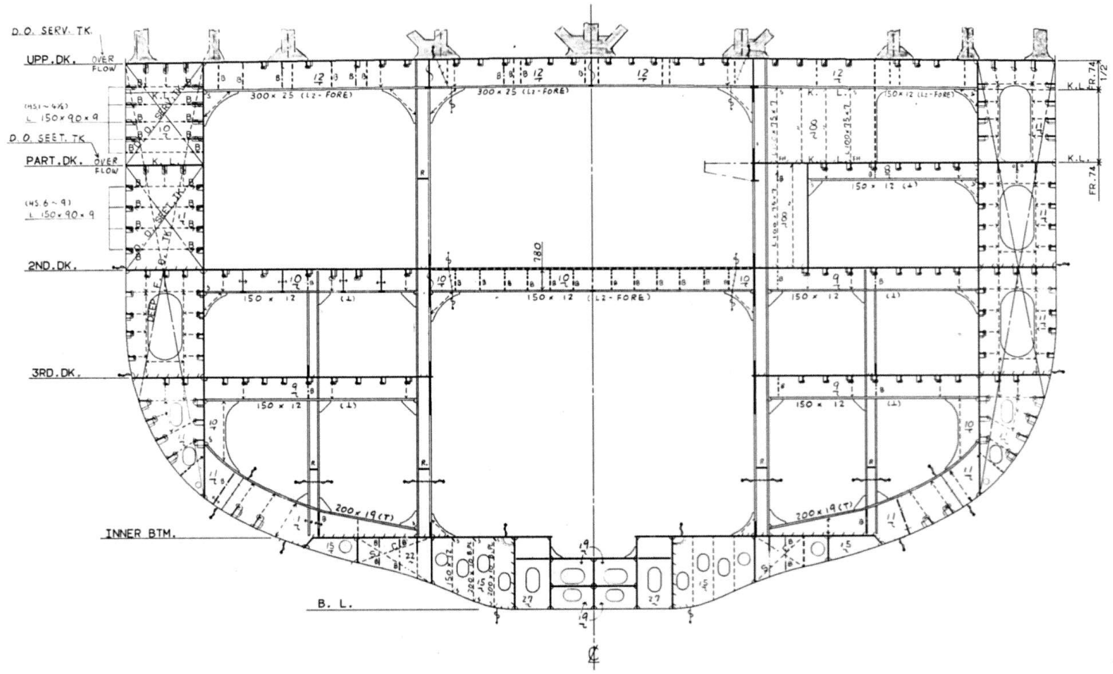

FR.82
2100042-7/
UPP.DK.
PART.DK.
2ND.DK.
3RD.DK.
INN.BTM.
B.L.
OVER FLOW (TK. TOP)
L.O.SLUDGE TK
DEEP F.O. TK.


FR.78
2100042-8/
UPP.DK.
PART.DK.
2ND.DK.
3RD.DK.
INNER BTM.
B.L.
DEEP F.O. TK
F.O.SLUDGE TK
OVER FLOW (TK. TOP)

159

FR. 74

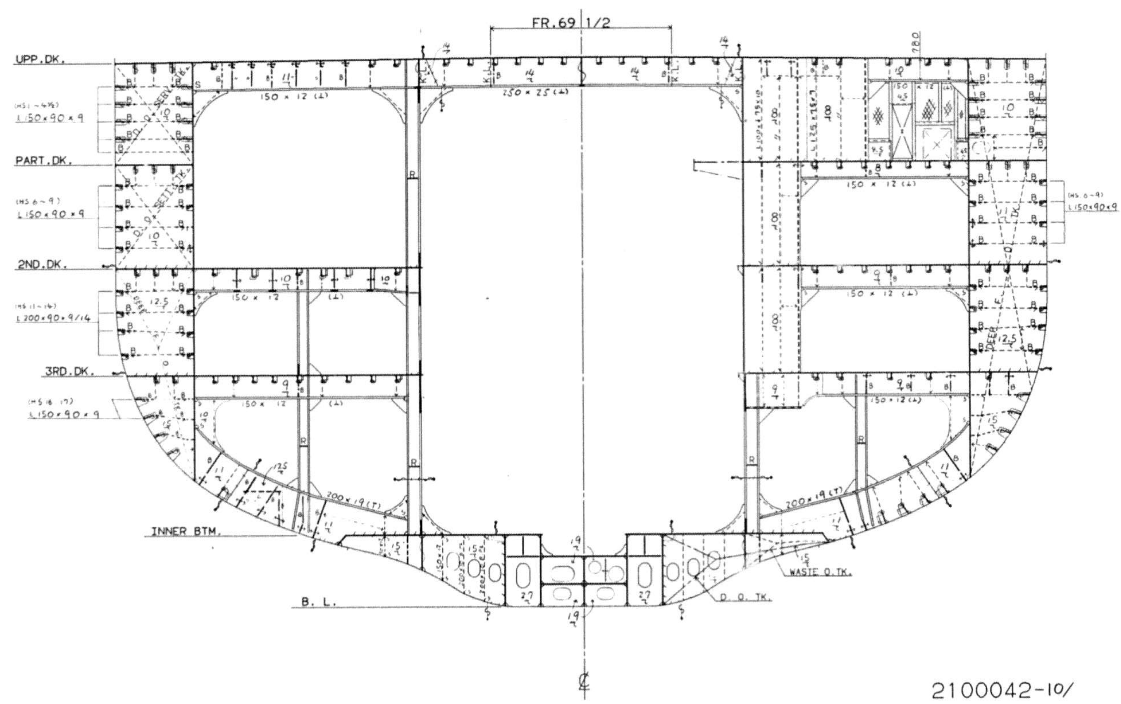
SIMILAR TO FR.66 EXCEPT SPECIFIED.



2100042-9/

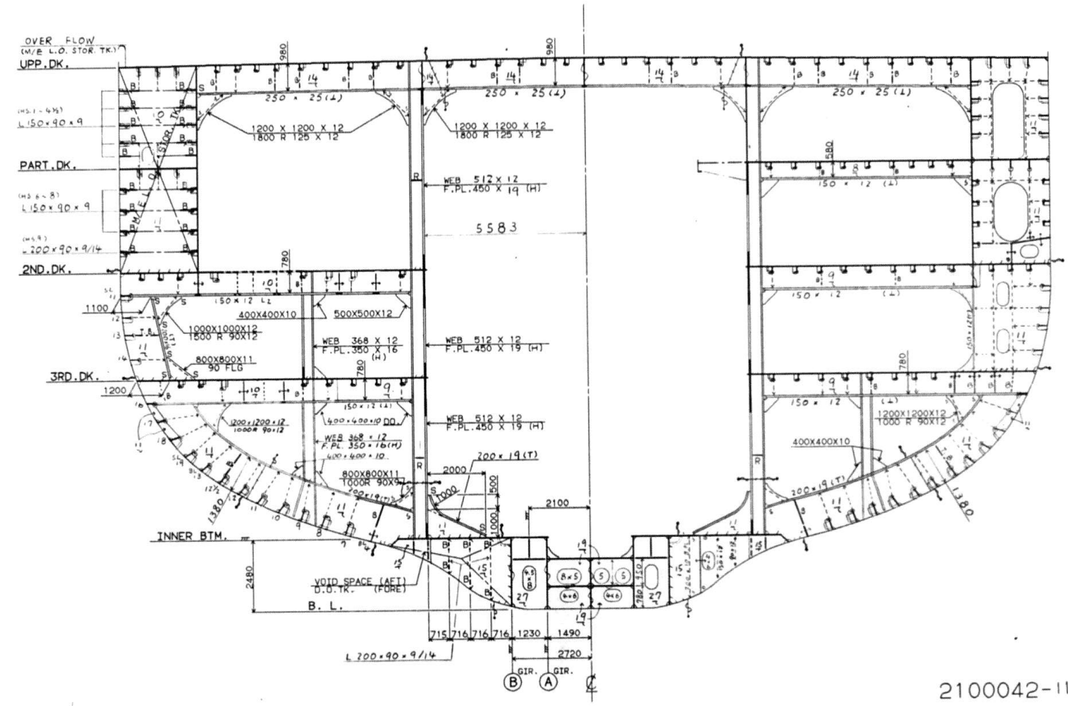
FR. 70

SIMILAR TO FR.66 EXCEPT SPECIFIED.



2100042-10/

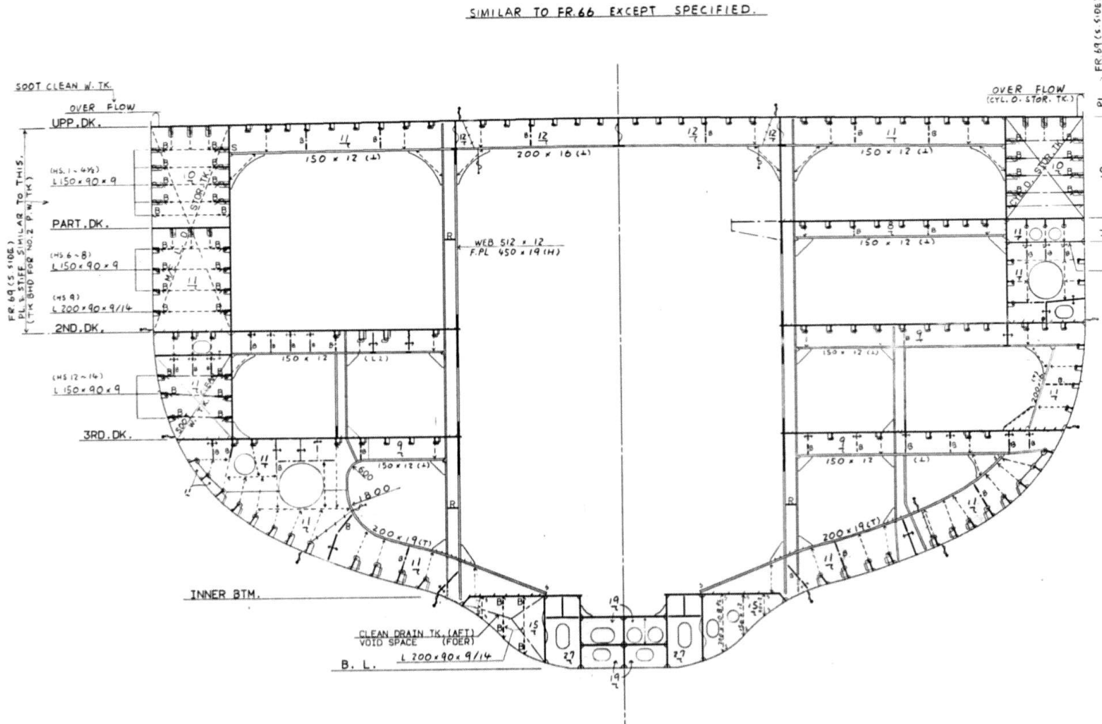
FR.66



2100042-11/

FR.62

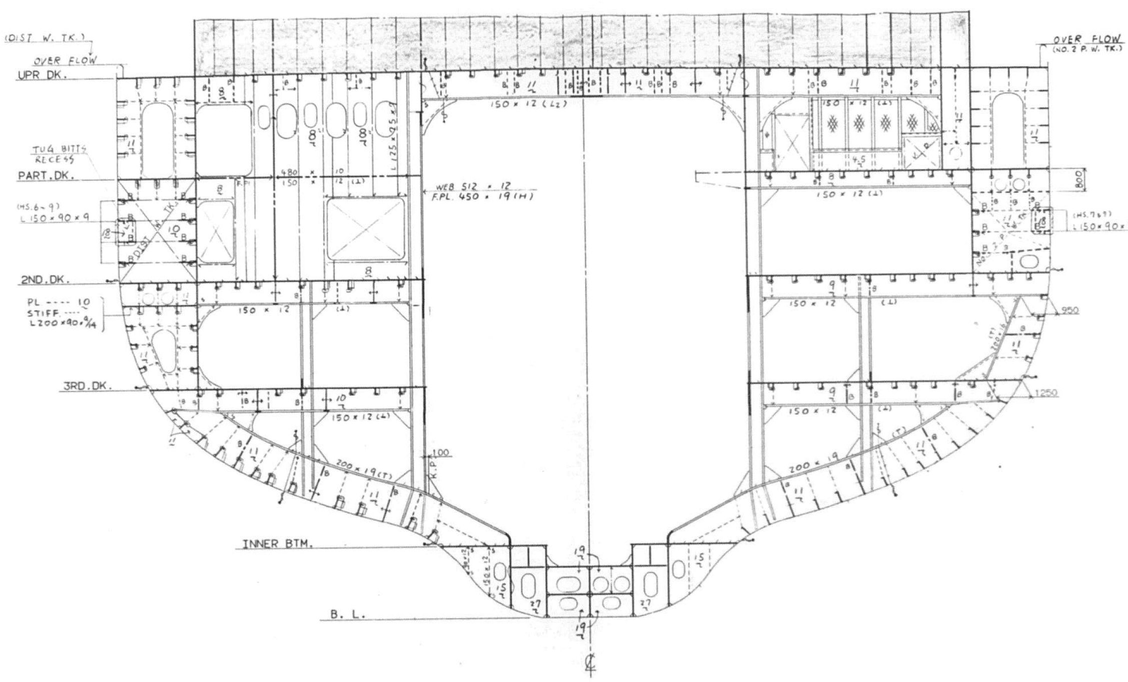
SIMILAR TO FR.66 EXCEPT SPECIFIED.



2100042-12/

FR. 58

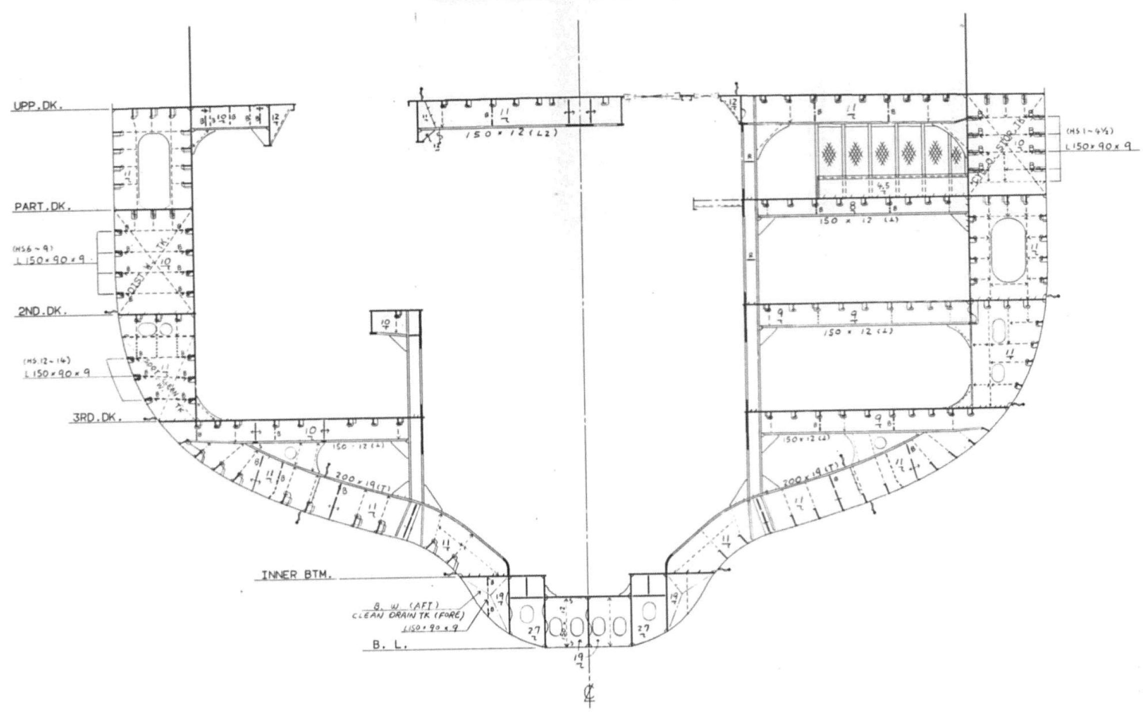
SIMILAR TO FR. 66 EXCEPT SPECIFIED.



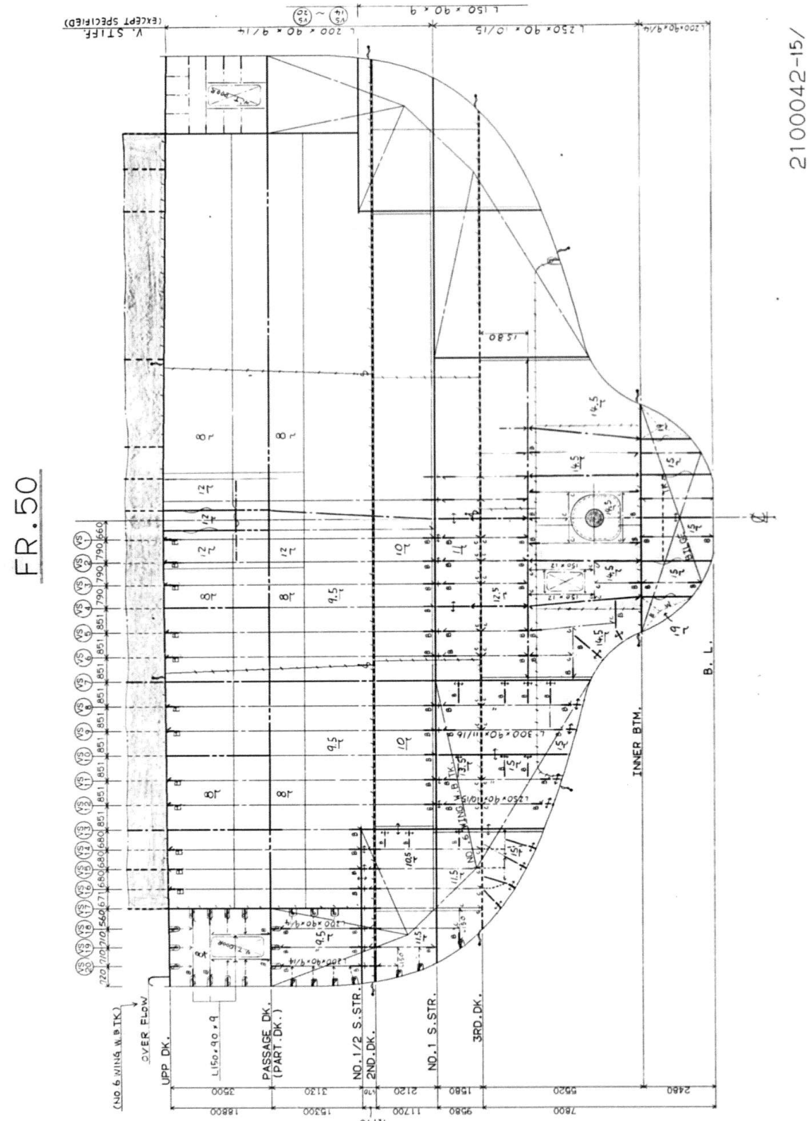
2100042-13/

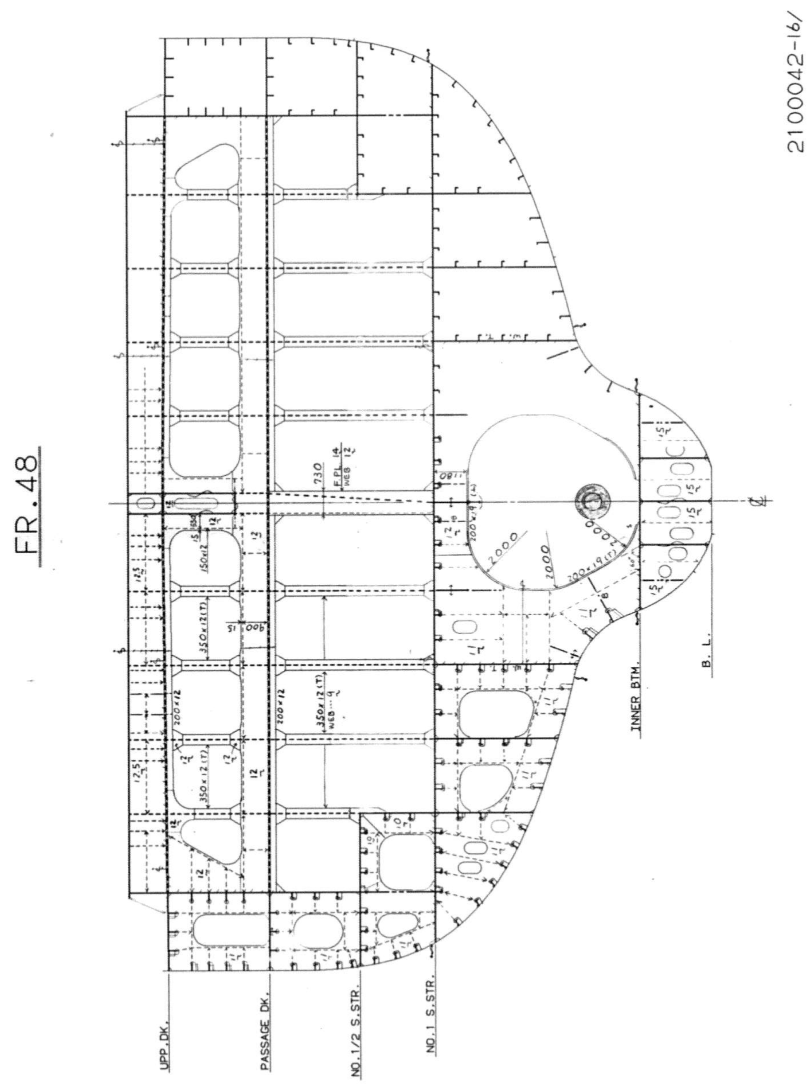
FR. 54

SIMILAR TO FR. 66 EXCEPT SPECIFIED

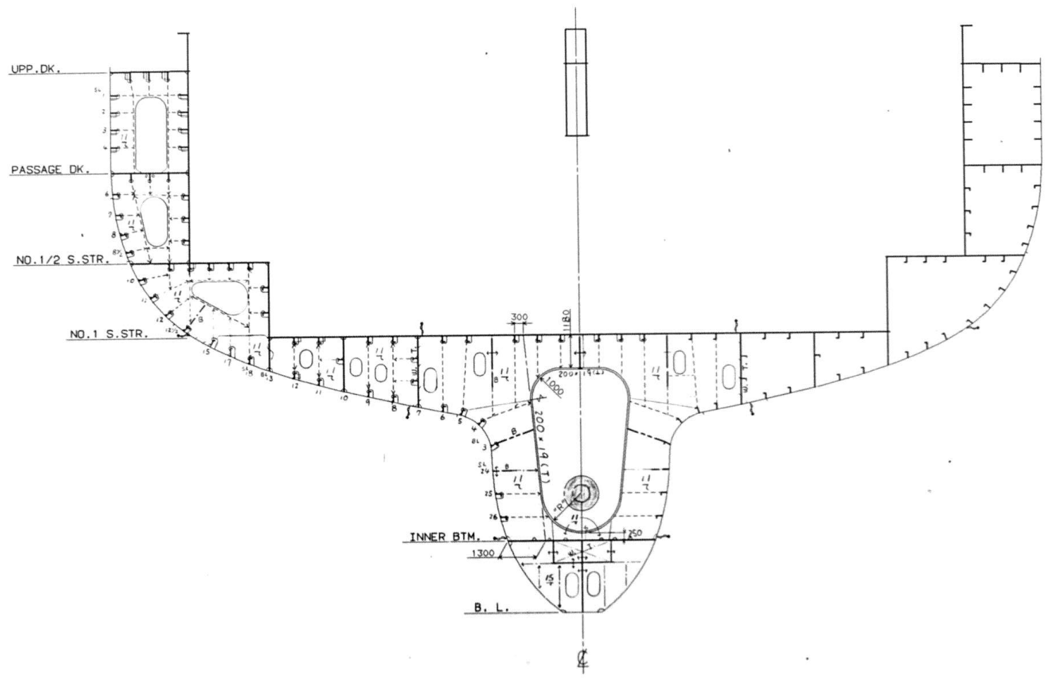


2100042-14/


FR.50
2100042-15/
V. STIFF.
(EXCEPT SPECIFIED)
UPP DK.
PASSAGE DK.
(PART. DK.)
NO.1/2 S.STR.
2ND.DK.
NO.1 S.STR.
3RD.DK.
INNER BTM.
B.L.
OVER FLOW
(NO.6 WING W.B.TK.)

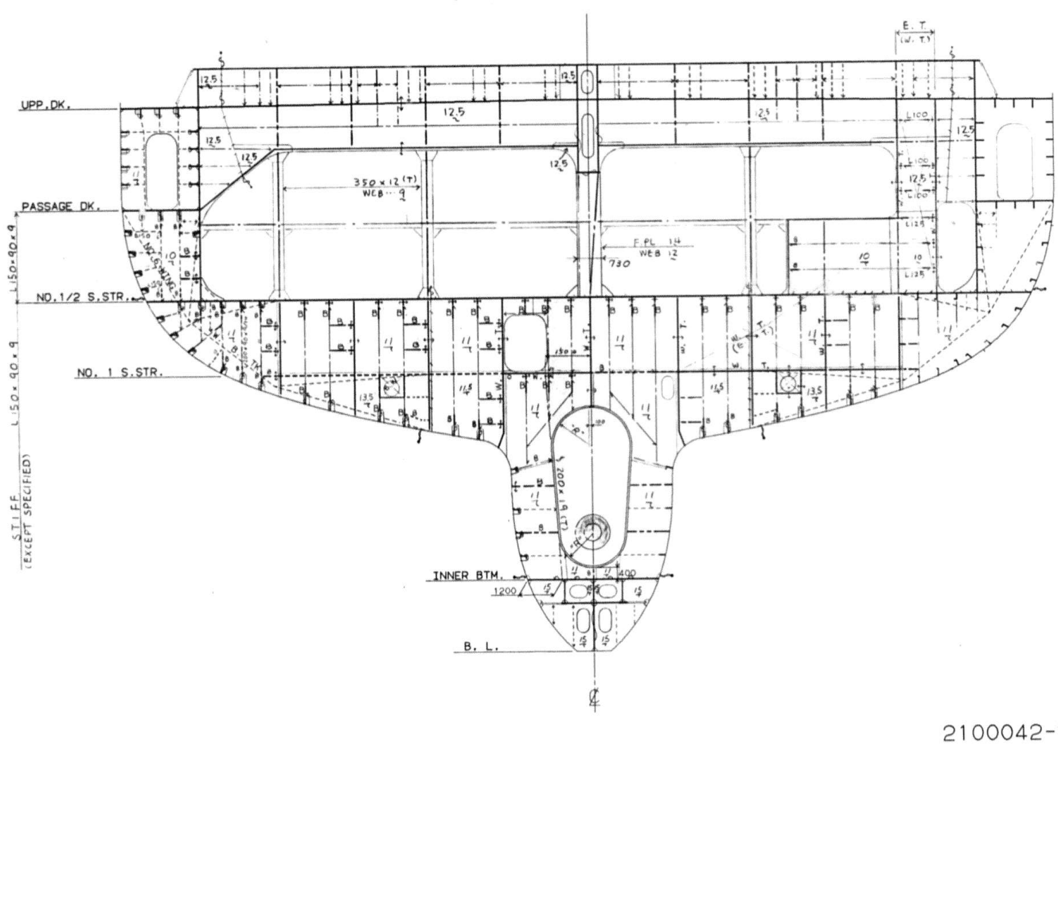

FR.48
2100042-16/
UPP.DK.
PASSAGE DK.
NO.1/2 S.STR.
NO.1 S.STR.
INNER BTM.
B.L.

FR.34



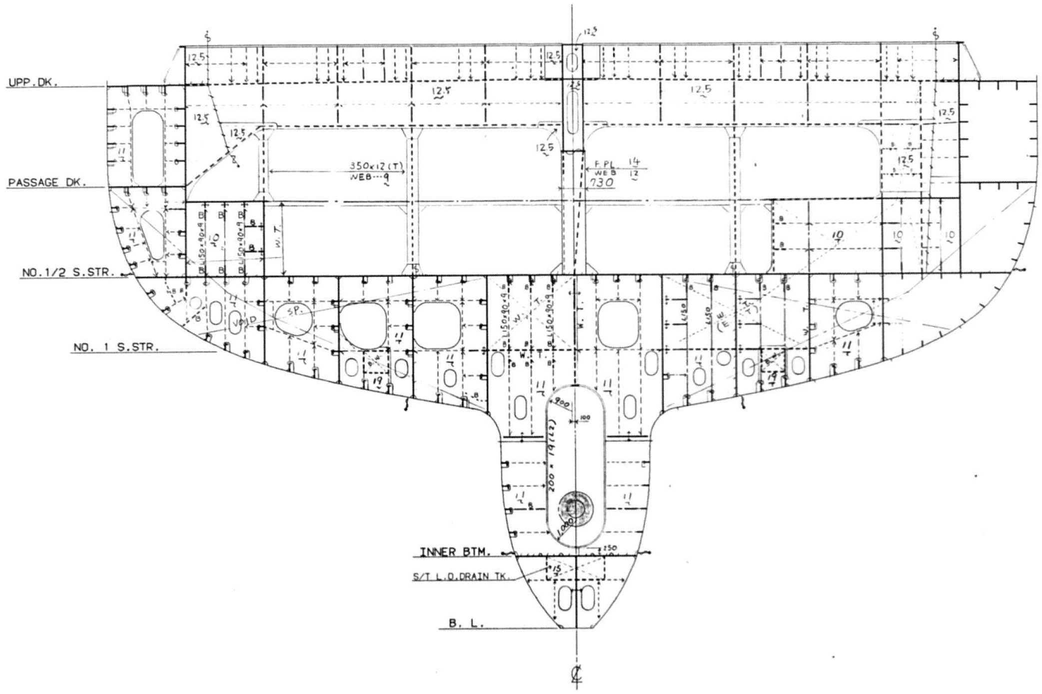
2100042-17/

FR.31



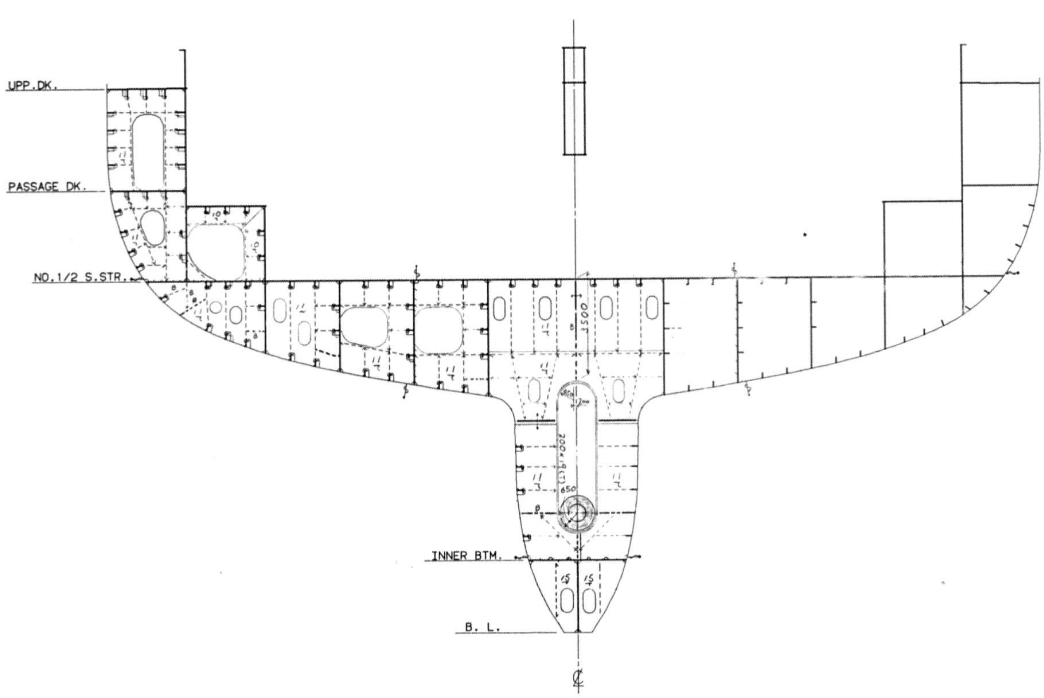
2100042-18/

FR.29



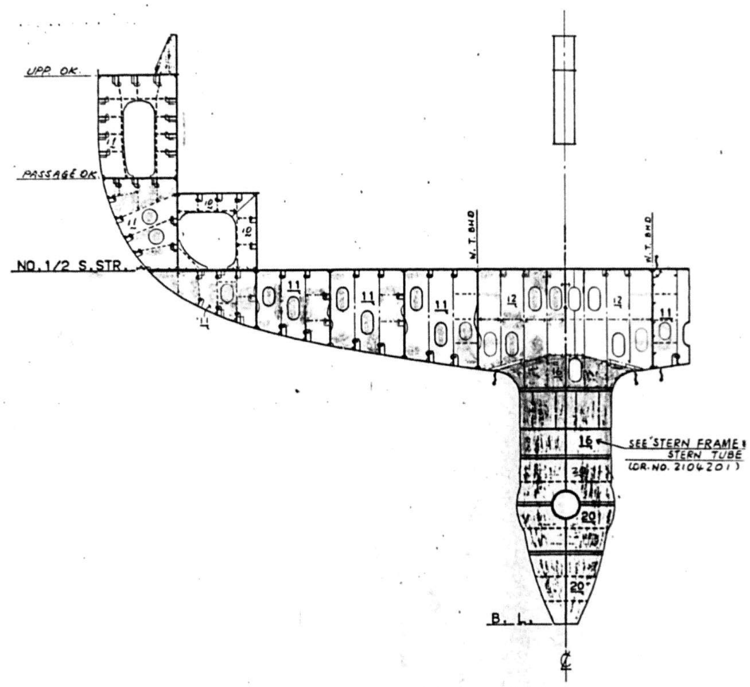
2100042-19/

FR.25



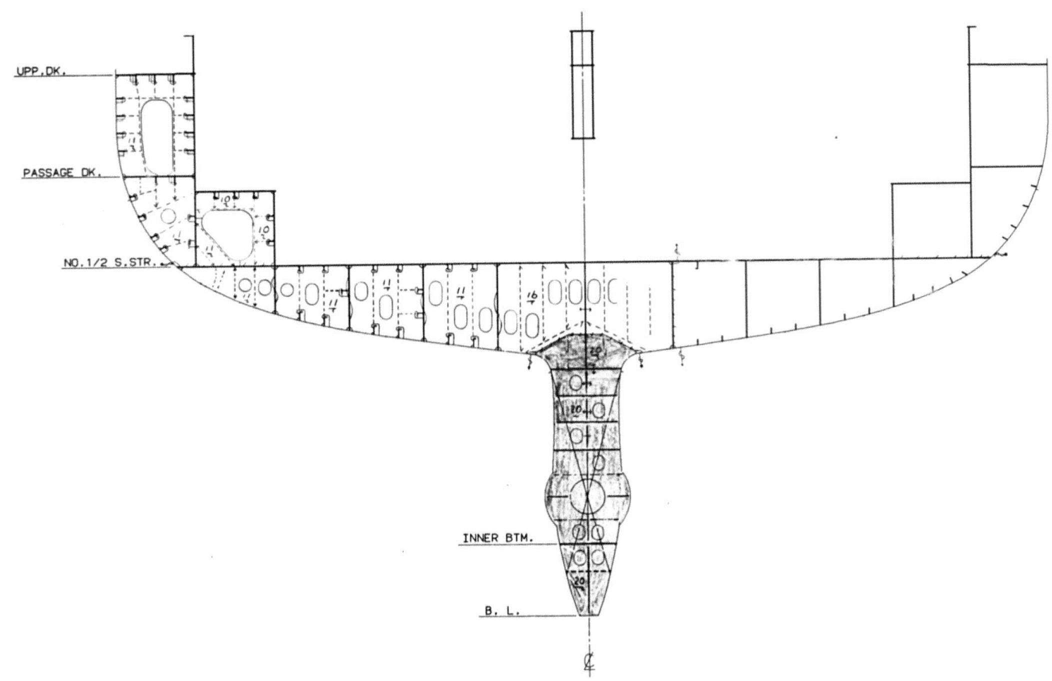
2100042-20/

FR. 21



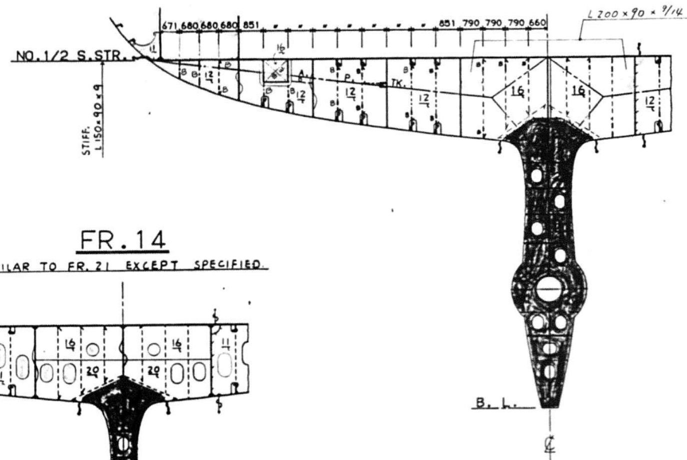
2100042-2Y

FR. 18



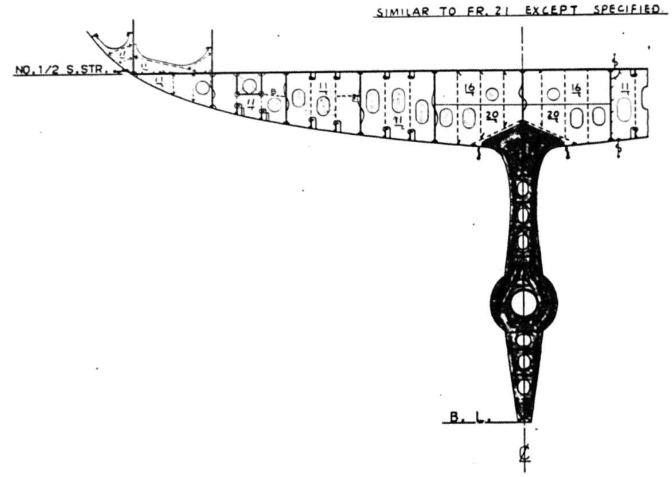
2100042-2Y

FR.16



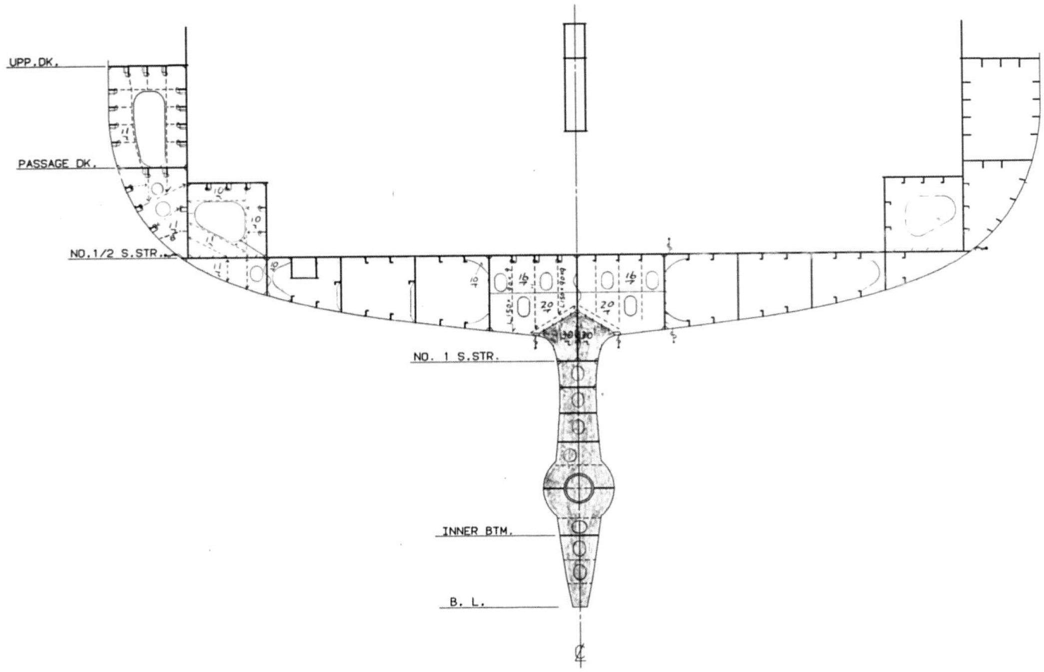
FR.14

SIMILAR TO FR.21 EXCEPT SPECIFIED

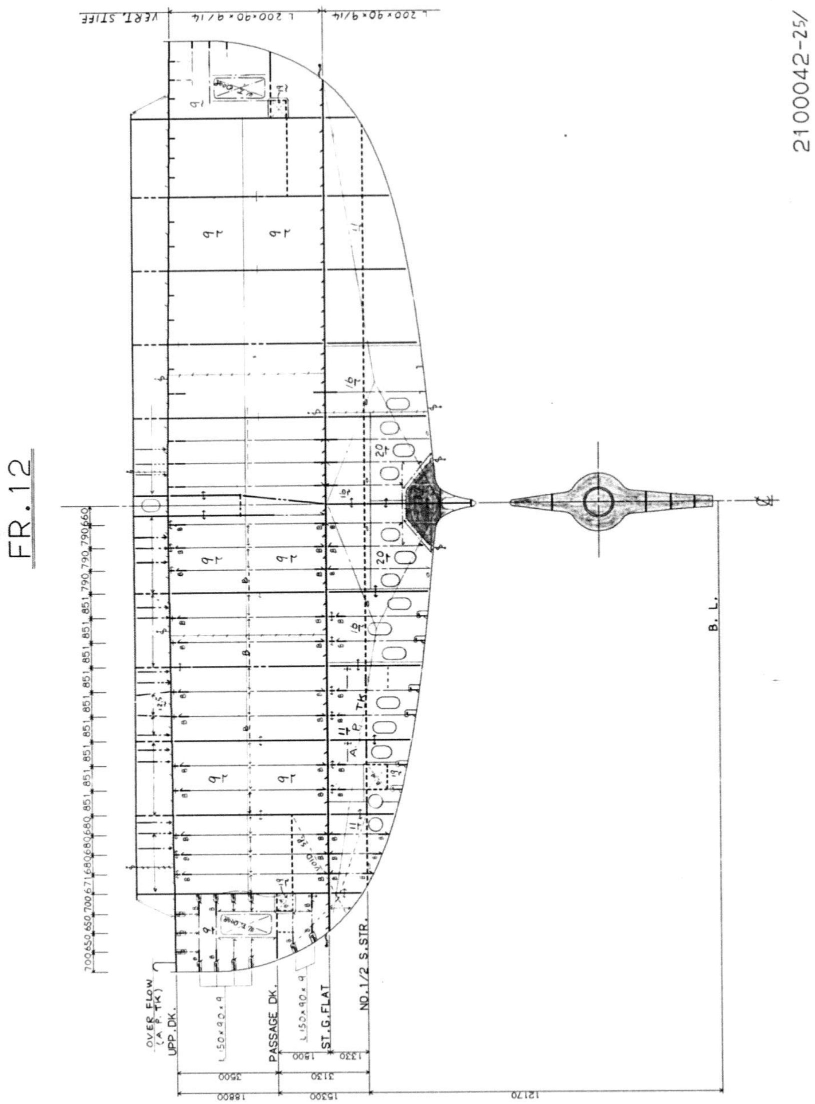


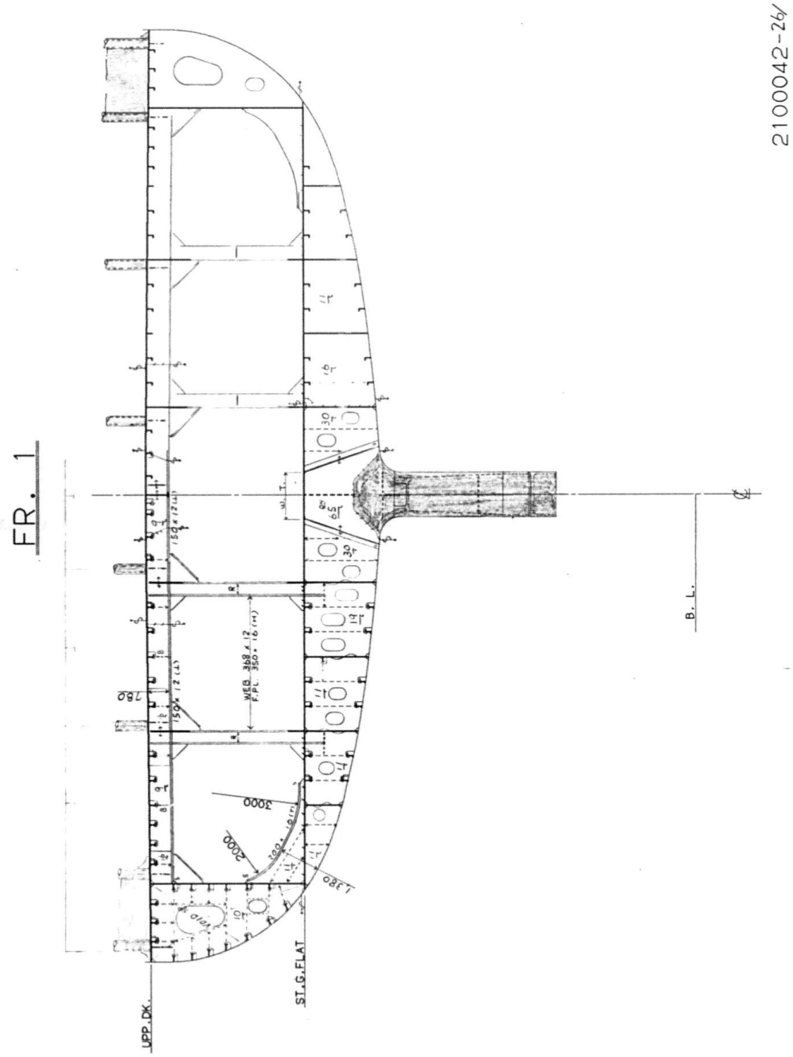
2100042-23/

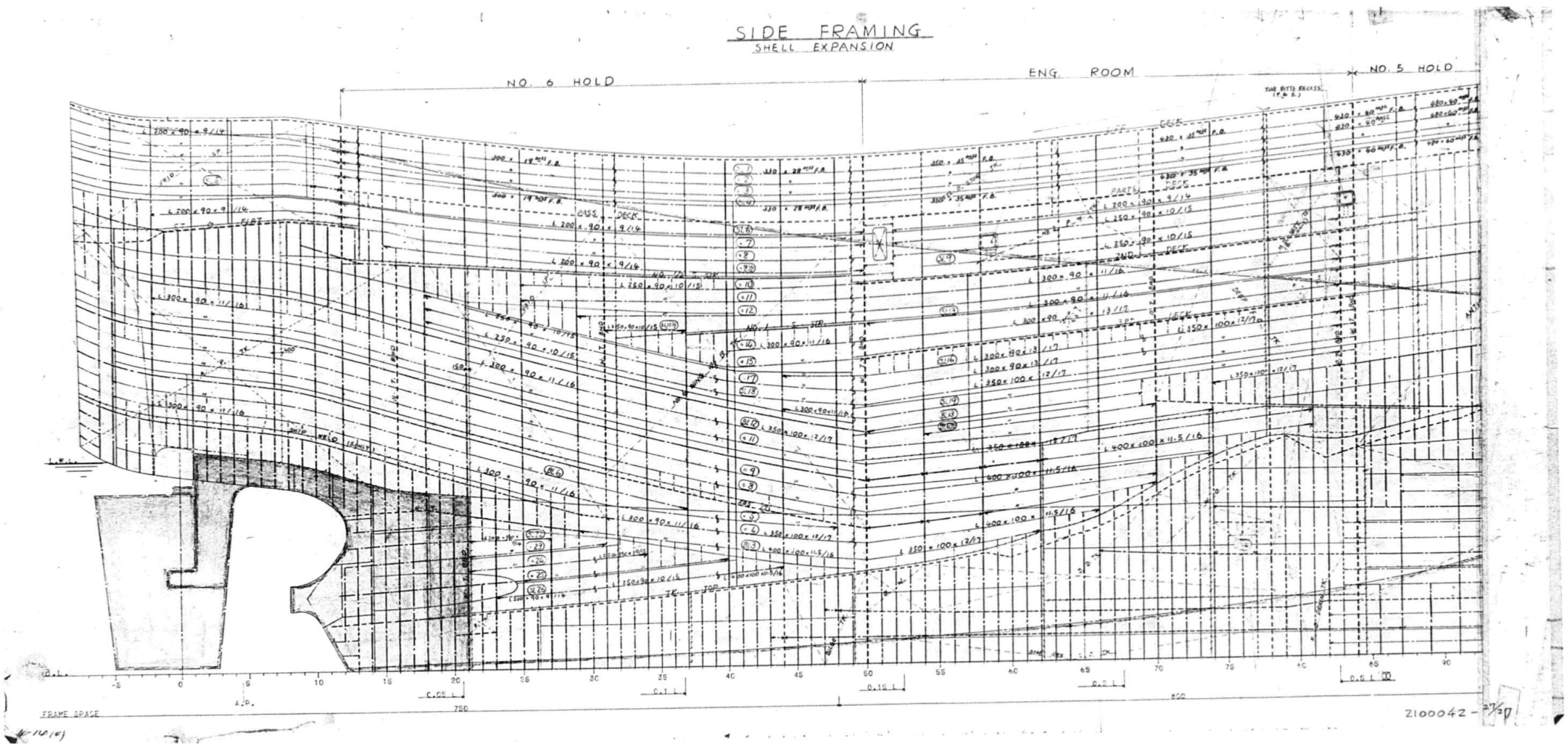
FR.15



2100042-24/


FR.12
2100042-25/
VERT. STIFF
OVER FLOW (A.P. TK)
UPP.DK.
PASSAGE DK.
ST.G.FLAT
NO.1/2 S.STR.
B.L.


FR. 1
2100042-26/
UPP.DK.
ST.G.FLAT
B.L.


SIDE FRAMING
SHELL EXPANSION
NO. 6 HOLD
ENG. ROOM
NO. 5 HOLD
FRAME SPACE
2100042

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	18 MAY '86	OFTS/MES-674			13 AUG '86	T-8-2		
1ST PART REV	7 JUL '86	OFTS/MES-690			30 AUG '86	T-8-2		
2ND PART REV	24 JUL '86	TAM/25			17 SEP '86	T-8-2		
3RD PART REV	8 SEP '86				9 OCT '86	T-8-2		
4TH PART REV	8 SEP '86	TAM/43			16 OCT '86	T-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC. CHIEF

SHIP'S NO. 1325 SHIP'S NAME TILLIE LYKES

貨物倉構造（オ1倉）
CARGO HOLD CONSTRUCTION (NO. 1 HOLD)

DATE (TEL)
JOB NO. TS1323/24/25
JOBCLASSIF. NO.
SCALE 1/100
LYKES REF. NO. 110602
MITSUI DRAWING NO. 2101011

(22 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO. 1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO. 1324 AND S.NO. 1325."	NOV. 28 '86
		FOR APL MODIFICATIONS, THIS DRAWING WAS MODIFIED PARTLY, AND THESE WERE SHOWN ON "MODIFICATION PLAN OF No. 1 HOLD (AFT) CONT. SUPP (40'/45' → 40')" (MES DWG. No. 2107321(1) PAGE 5~10, 12, 13, 16~19 & 22)	

DWG. NO. 2101011 - 1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備　考：-

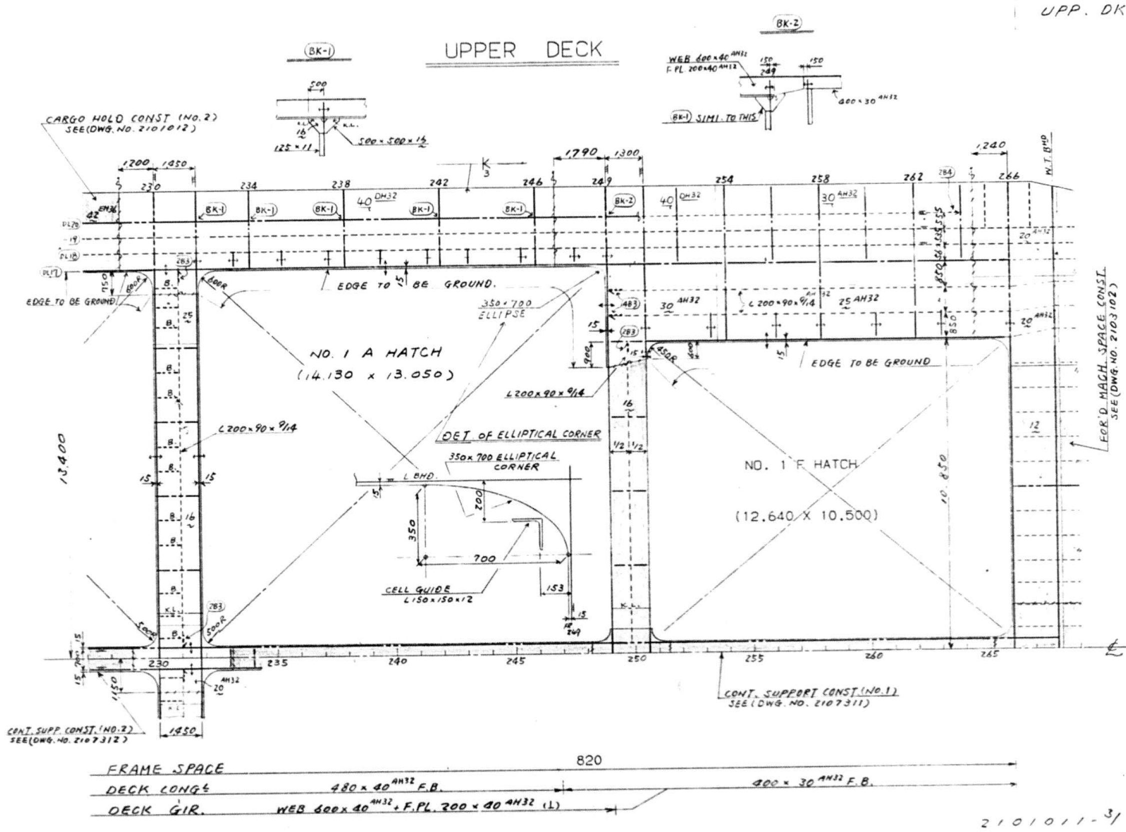
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番 2100811）」を参照のこと。
4. 脚長については，特記の他は「溶接脚長表（図番 2100832）」を参照のこと。

2101011 - 2/

170

UPP. DK.

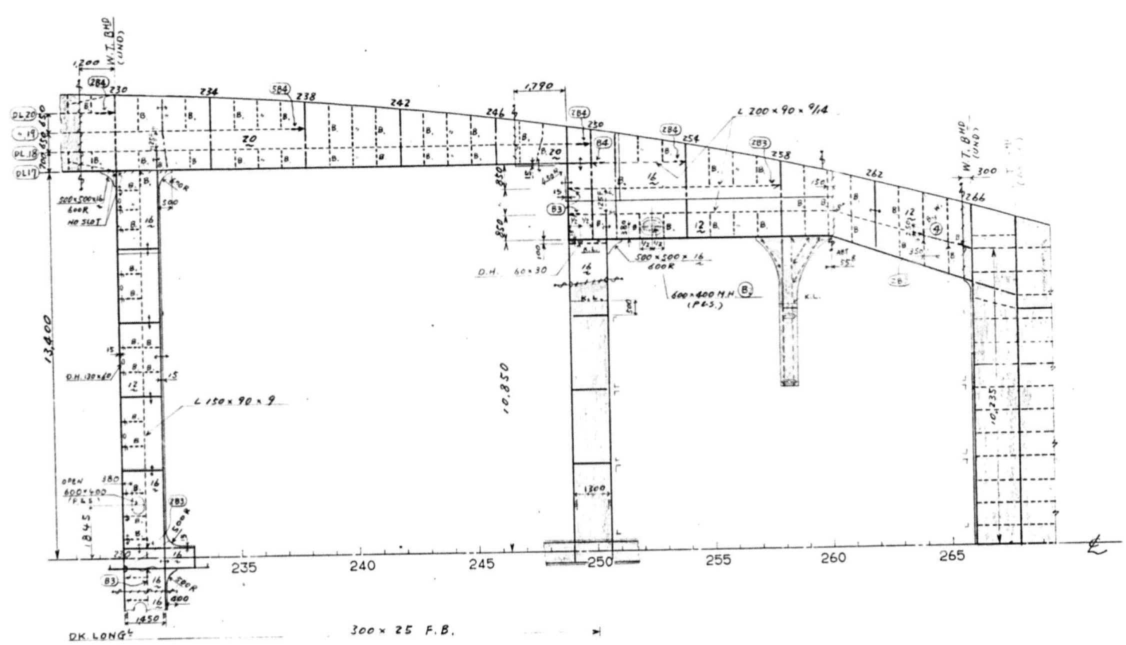
UPPER DECK



2101011-3/

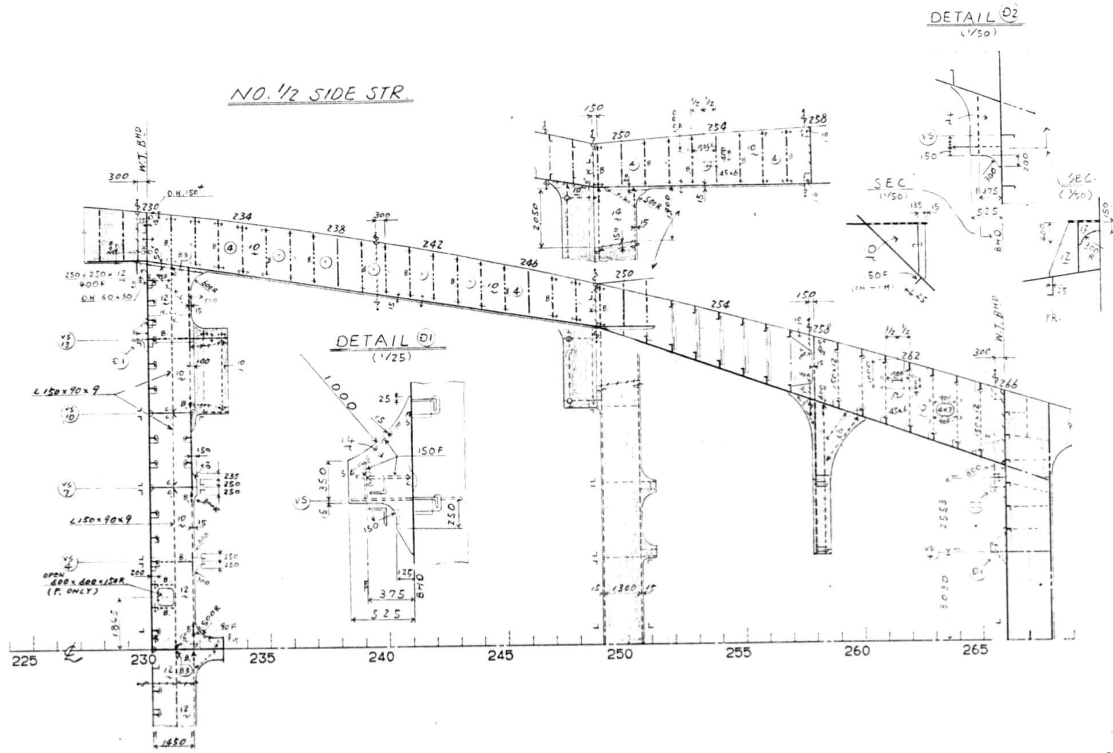
PASS. DK.

PASSAGE DECK



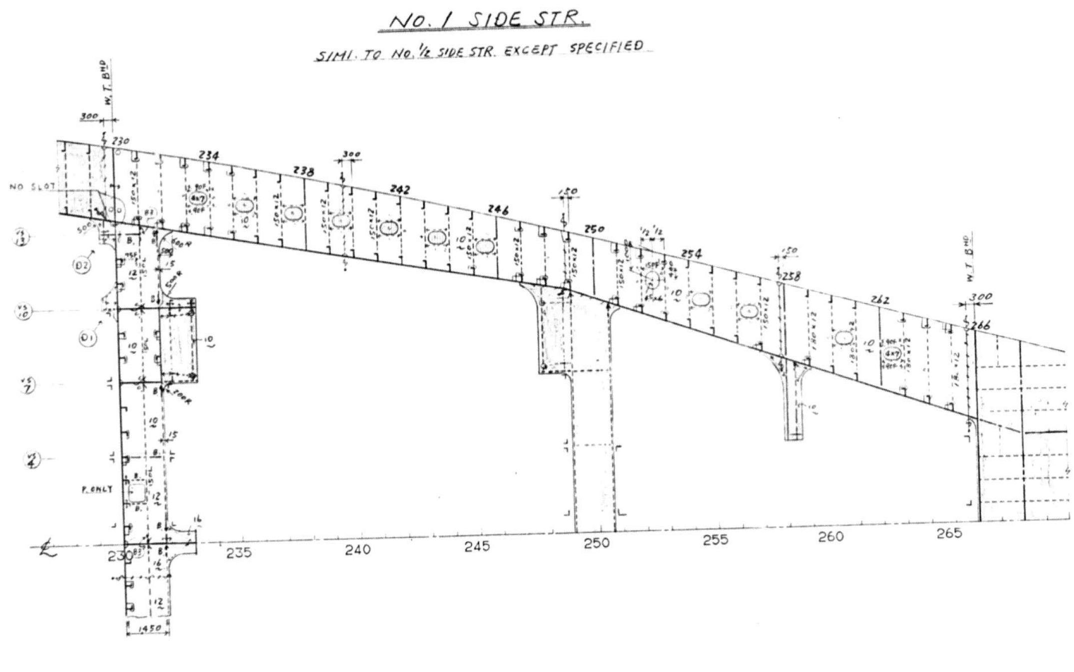
2101011-4/

NO. ½ S. STR.



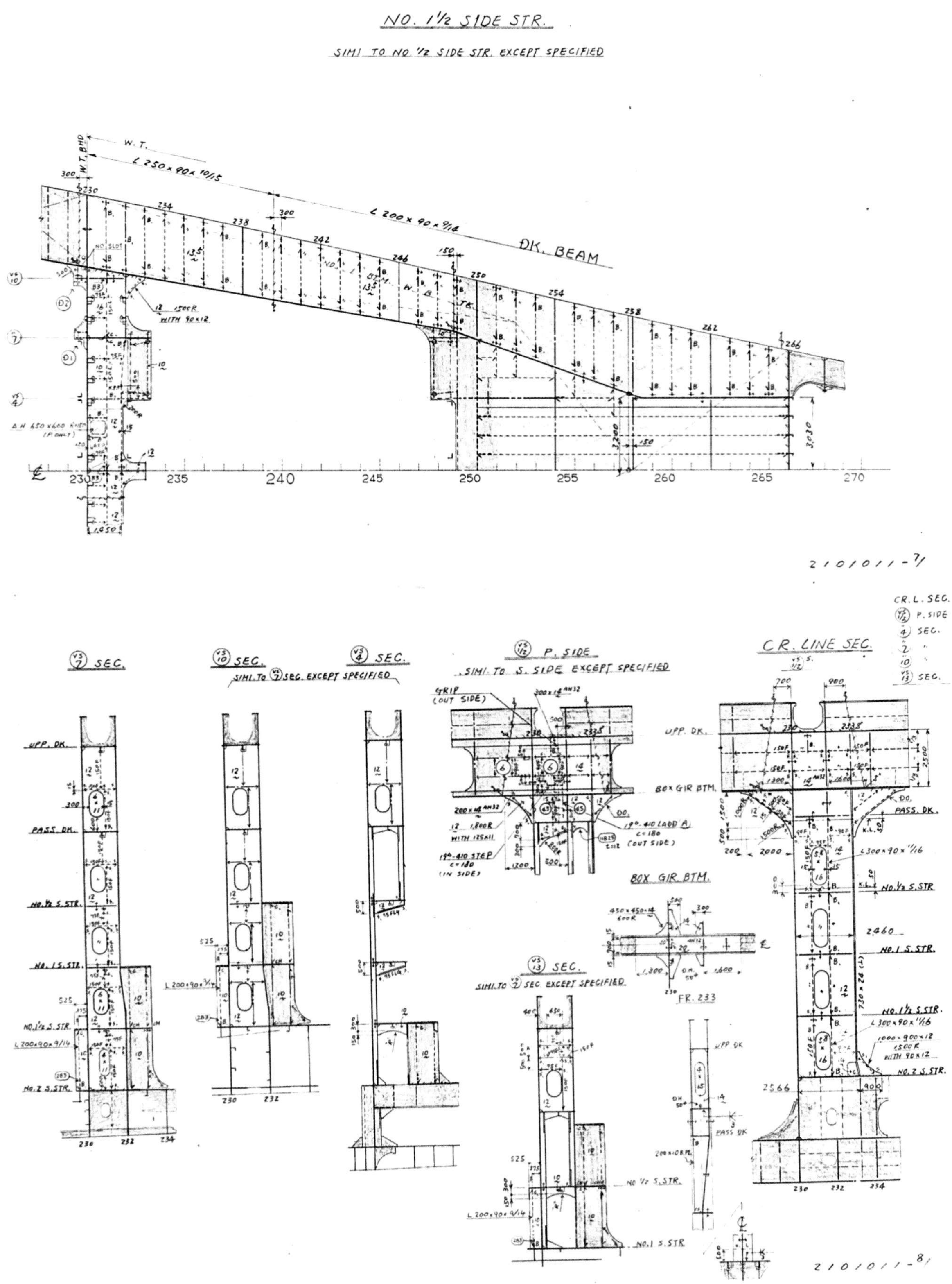
210101 1-51

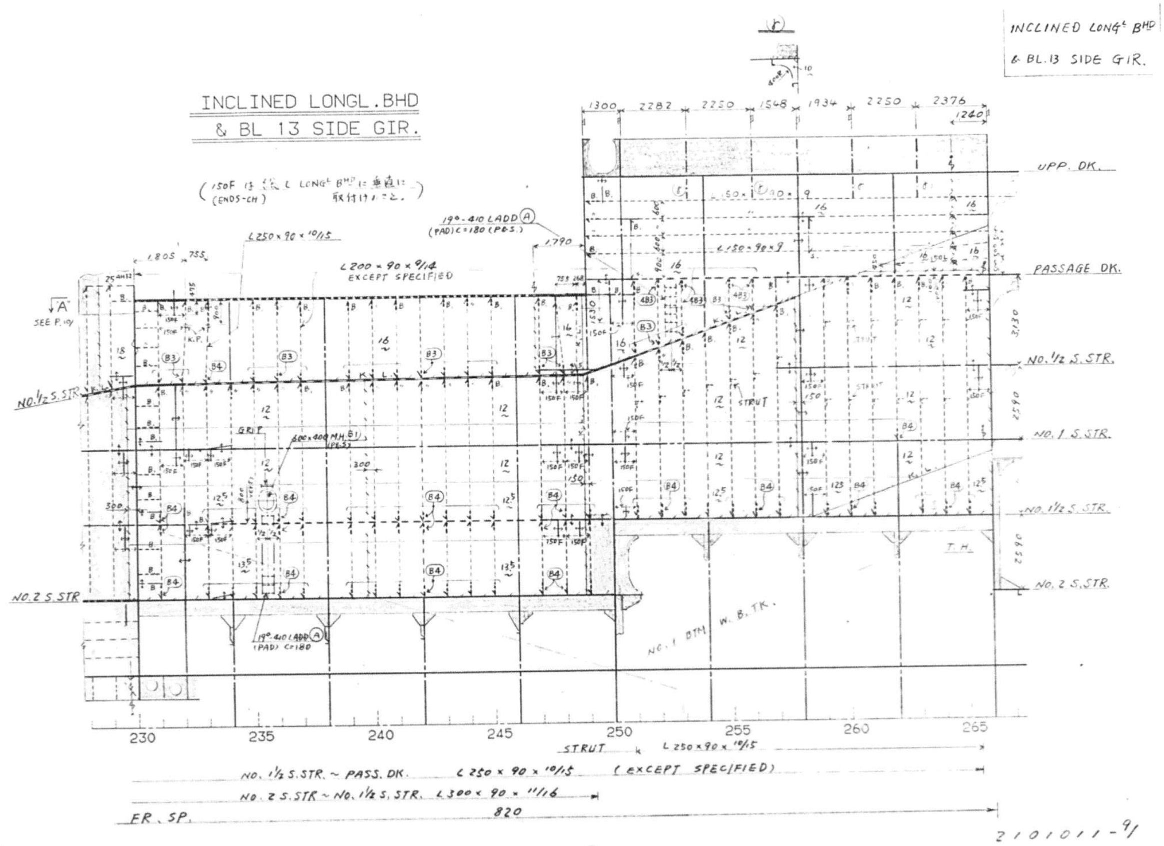
NO. 1 S. STR.

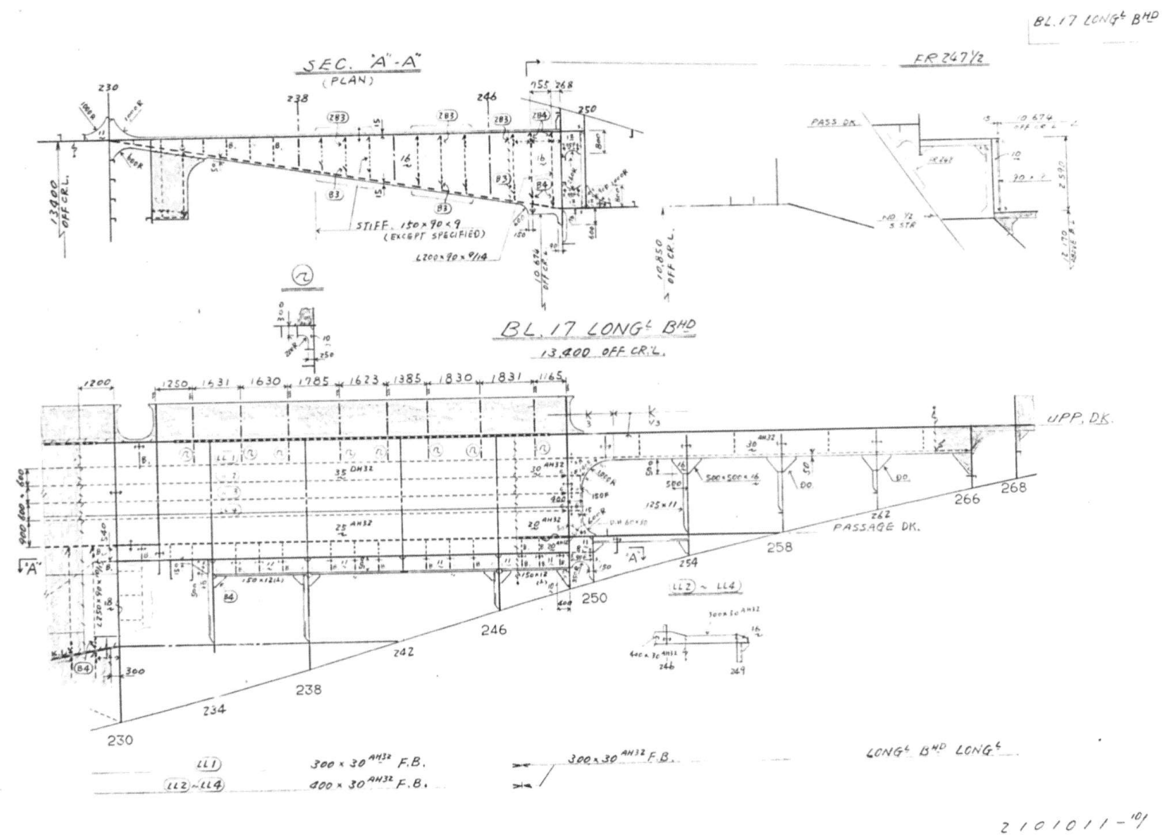


210101 1-61

172

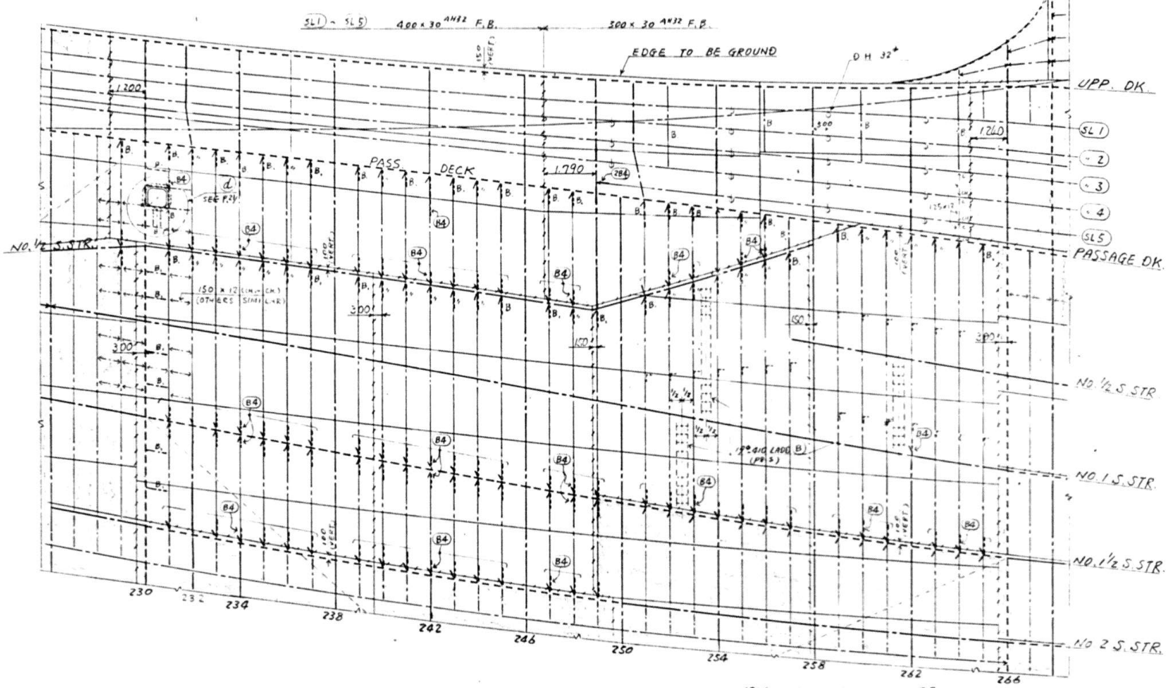

NO. 1½ SIDE STR.
SIMI TO NO. ½ SIDE STR. EXCEPT SPECIFIED
W.T.
W.T. BHD
L 250 × 90 × 10/15
L 200 × 90 × 9/14
DK. BEAM
210011-7
CR. L. SEC.
½ P. SIDE
4 SEC.
2
10
13 SEC.
2 SEC.
10 SEC.
SIMI. TO 2 SEC. EXCEPT SPECIFIED
4 SEC.
½ P. SIDE
SIMI. TO S. SIDE EXCEPT SPECIFIED
C.R. LINE SEC.
UPP. DK.
PASS. DK.
NO. ½ S. STR.
NO. 1 S. STR.
NO. 1½ S. STR.
NO. 2 S. STR.
BOX GIR BTM.
BOX GIR. BTM.
FR. 233
13 SEC.
SIMI. TO 2 SEC. EXCEPT SPECIFIED
210011-8


INCLINED LONG'L BHD
& BL.13 SIDE GIR.
INCLINED LONGL. BHD
& BL 13 SIDE GIR.
UPP. DK.
PASSAGE DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
T. H.
NO. 1 BTM W. B. TK.
STRUT L 250 x 90 x 10/15
NO. 1 1/2 S. STR. ~ PASS. DK. L 250 x 90 x 10/15 (EXCEPT SPECIFIED)
NO. 2 S. STR ~ NO. 1 1/2 S. STR. L 300 x 90 x 11/16
FR. SP. 820
L 200 x 90 x 9/14 EXCEPT SPECIFIED
L 250 x 90 x 10/15
230
235
240
245
250
255
260
265
210101 1 - 9/


BL.17 LONG'L BHD
SEC. "A"-"A" (PLAN)
FR 247 1/2
STIFF. 150 x 90 x 9 (EXCEPT SPECIFIED)
L 200 x 90 x 9/14
13,400 OFF CR.L.
BL.17 LONG'L BHD
13.400 OFF CR.L.
UPP. DK.
PASSAGE DK.
300 x 30 AH32 F.B.
400 x 30 AH32 F.B.
300 x 30 AH32 F.B.
LONG'L BHD LONG'L
210101 1 - 10/

SIDE FLAME

SIDE FLAMING

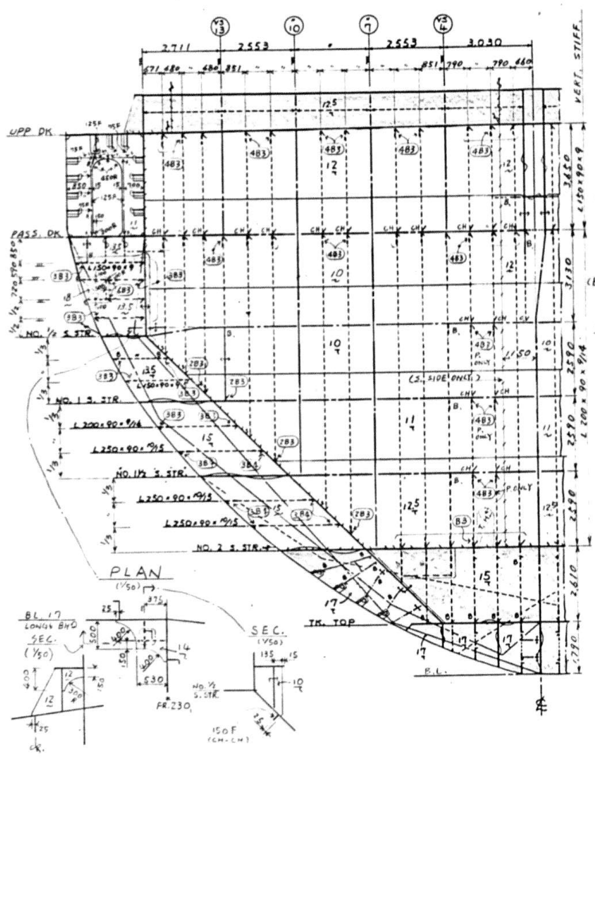


SIDE FRAME NO. 1½ S.STR ~ PASS. DK. ∠250 × 90 × 10/15 (EXCEPT SPECIFIED)
∠300 × 90 × 11/16 NO. 2 S.STR ~ NO. 1½ S.STR.

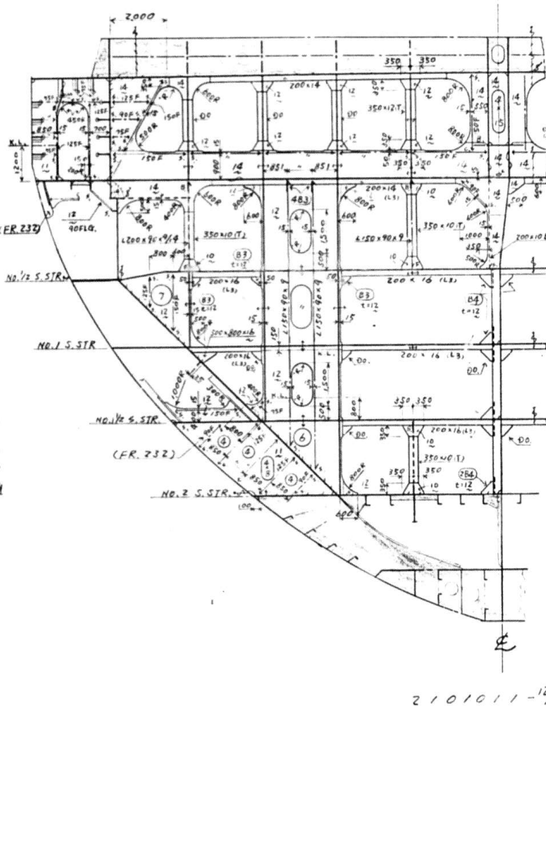
2101011-11

FR. 230
FR. 231½

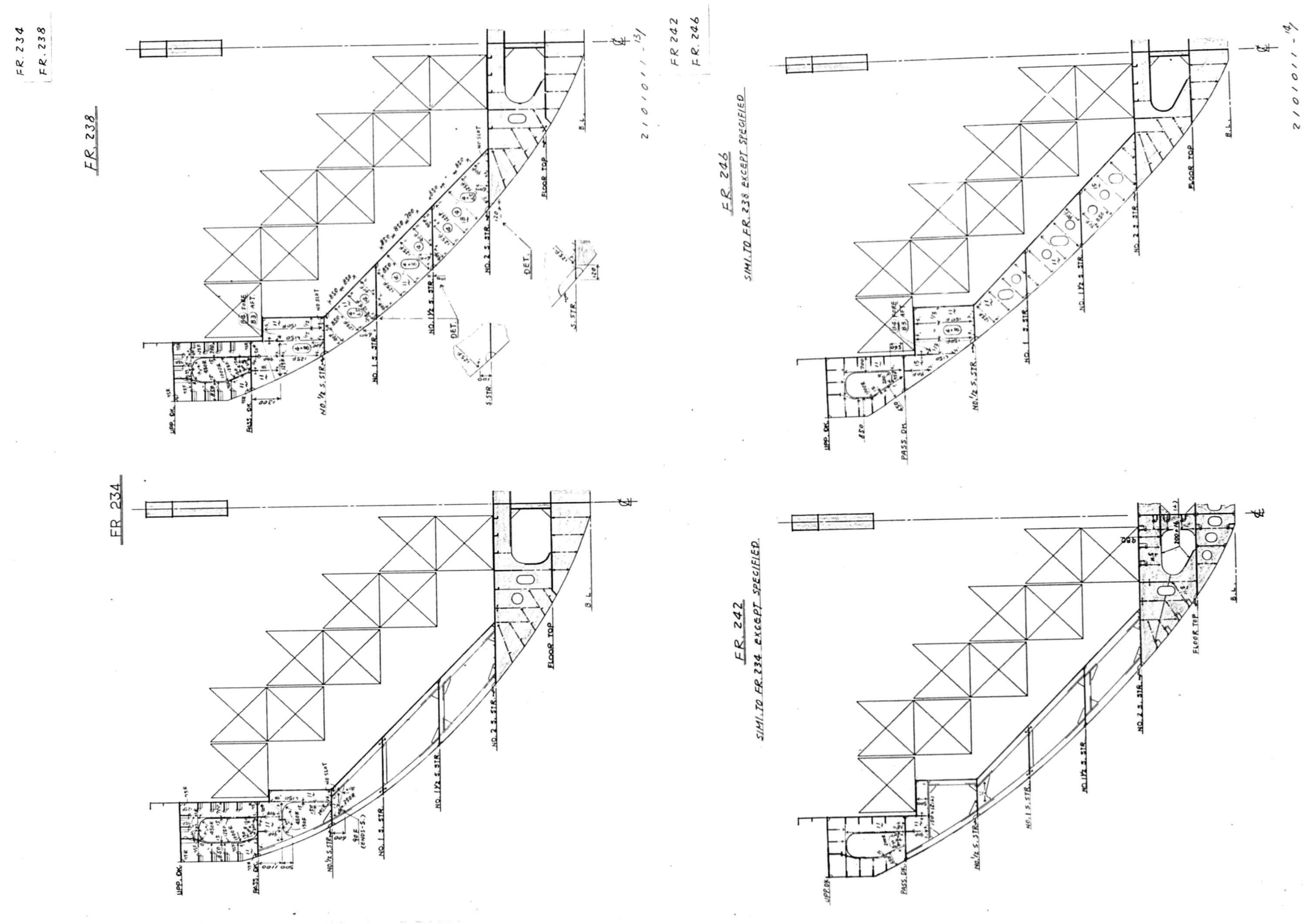
FR. 230 W.T. BHD

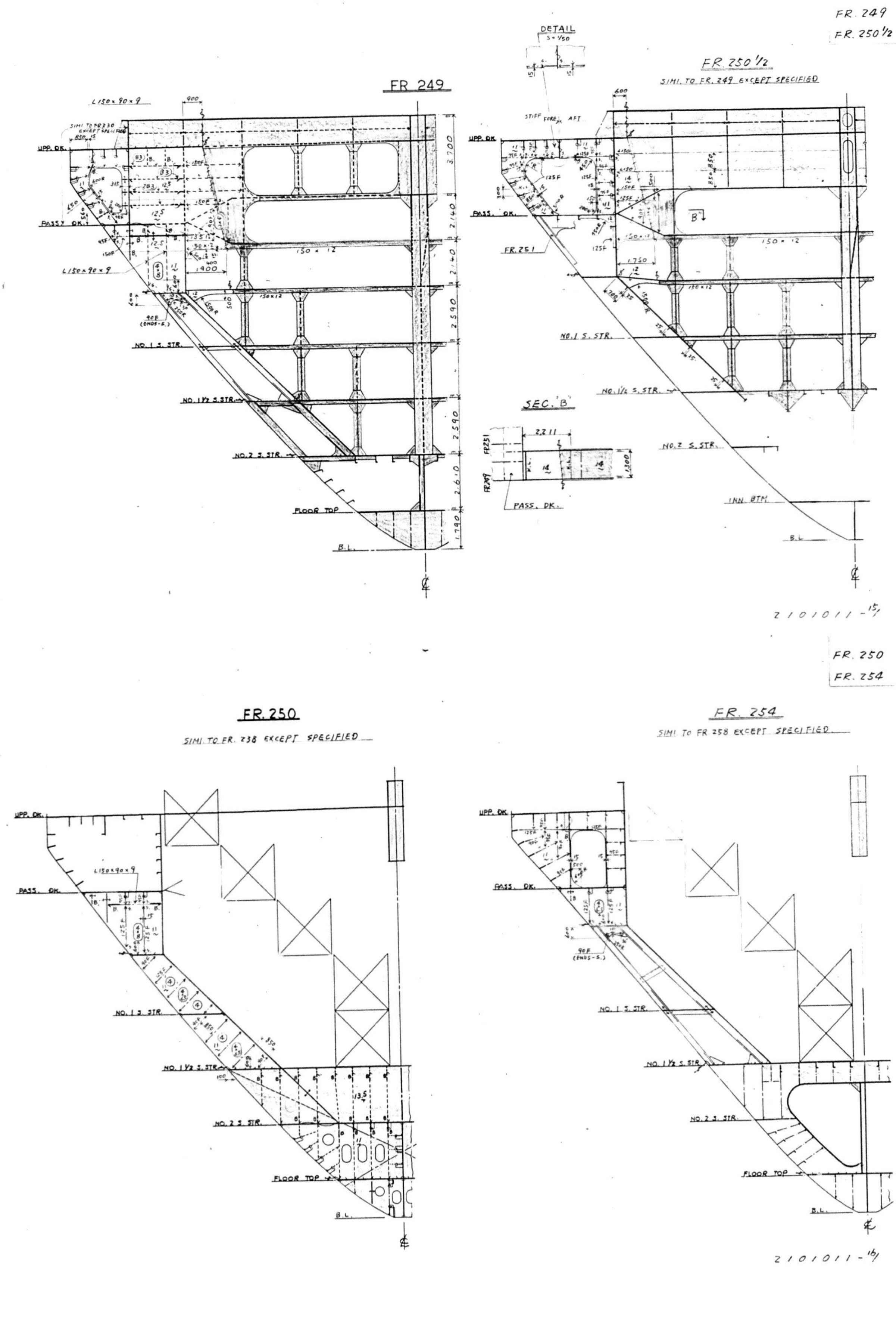


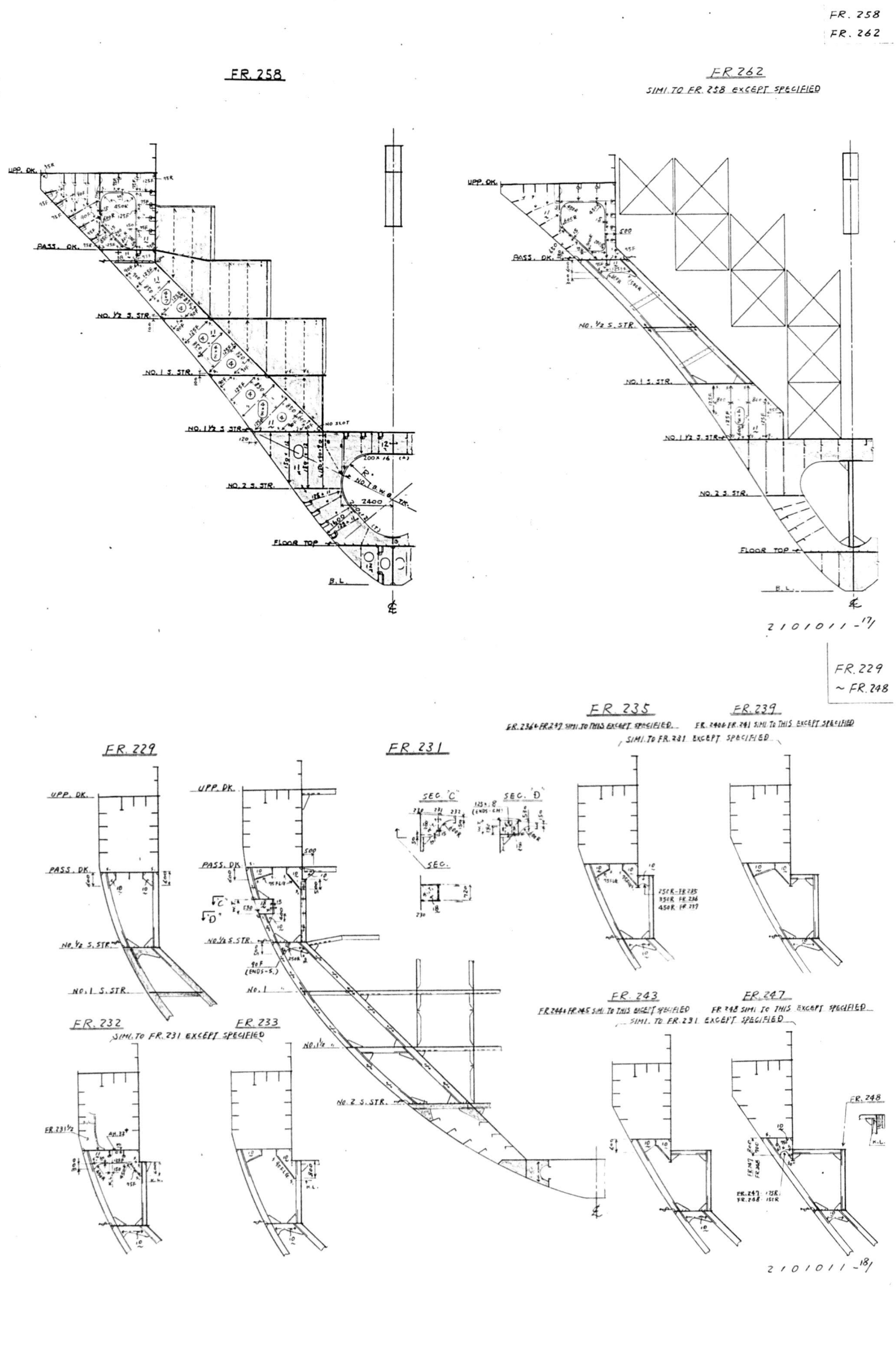
FR. 231½



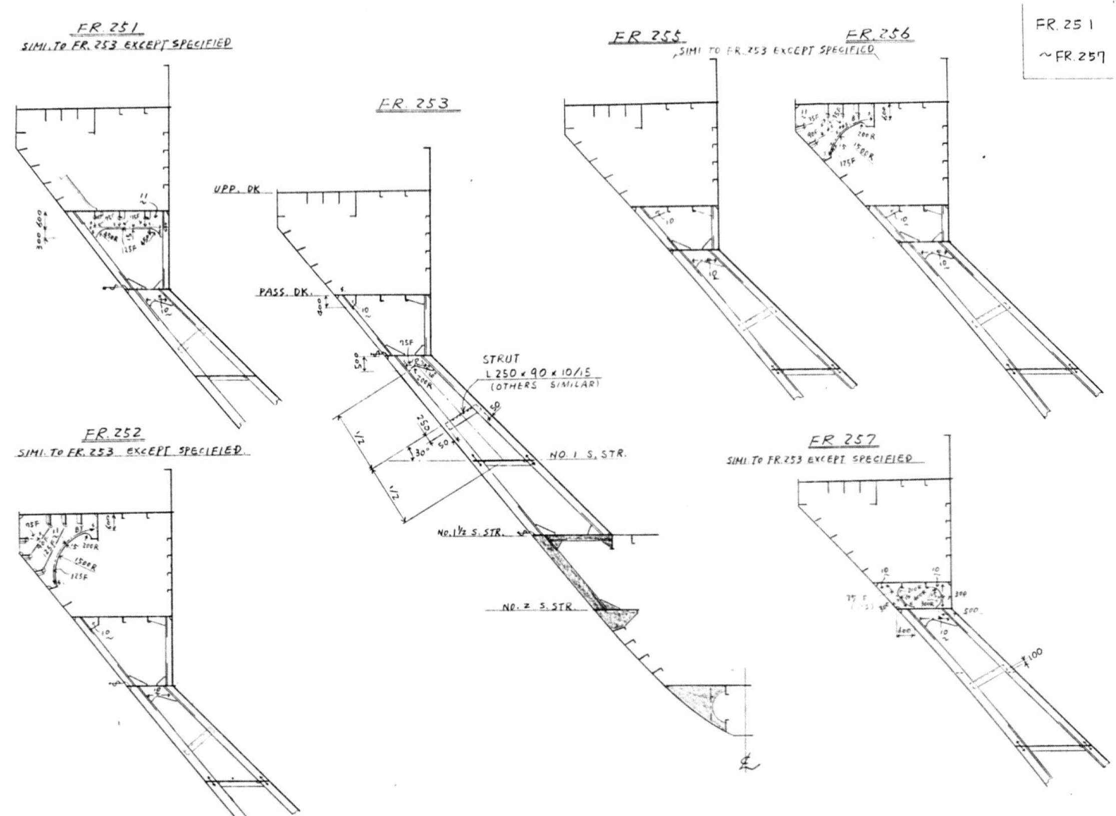
2101011-12


FR. 234
FR. 238
FR. 238
2101011-13
FR 242
FR. 246
FR 246
SIMI. TO FR. 238 EXCEPT SPECIFIED
2101011-14
FR 234
FR 242
SIMI. TO FR. 234 EXCEPT SPECIFIED
FLOOR TOP
UPP. DK.
PASS. DK.

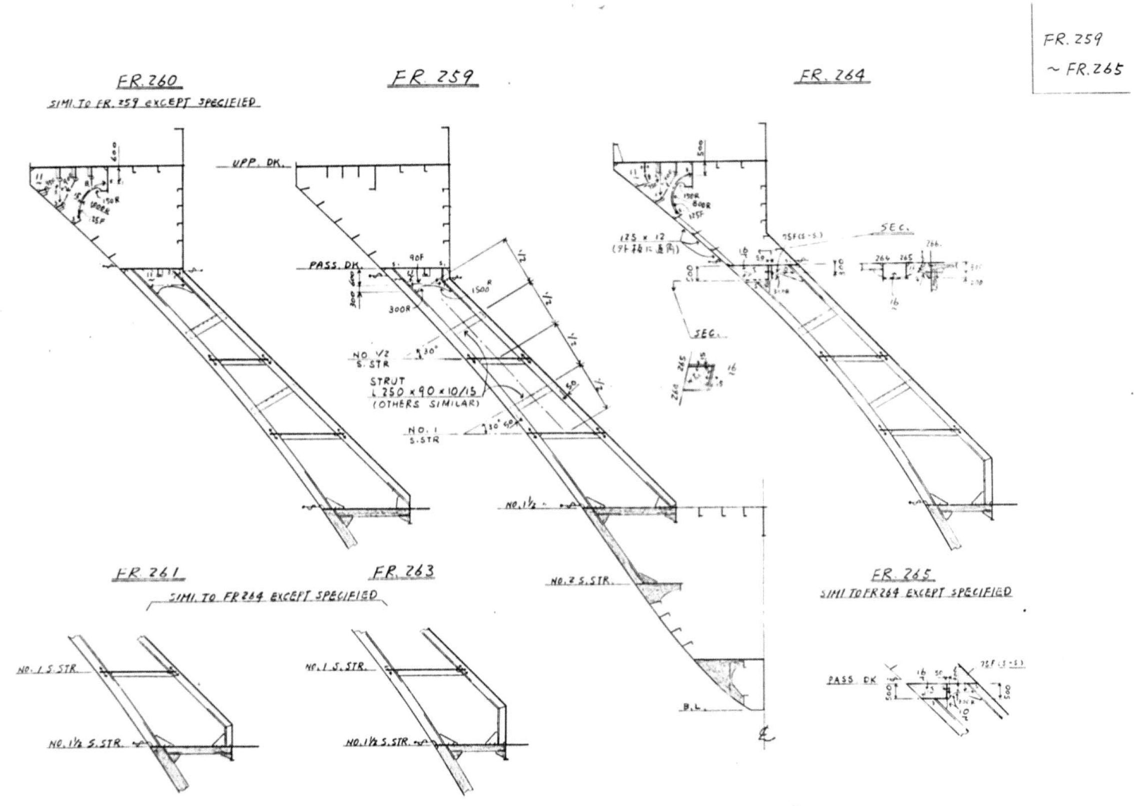

FR. 249
FR. 250 1/2
FR 249
FR. 250 1/2
SIMI. TO FR. 249 EXCEPT SPECIFIED
DETAIL
SEC. 'B'
UPP. DK.
PASS. DK.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
FLOOR TOP
INN. BTM.
B.L.
FR. 251
150 × 12
L150 × 90 × 9
3200
2140
2590
2610
1790
1900
1750
210101-15/1
FR. 250
FR. 254
FR. 250
SIMI. TO FR. 238 EXCEPT SPECIFIED
FR. 254
SIMI. TO FR 258 EXCEPT SPECIFIED
210101-16/1


FR. 258
FR. 262
FR. 258
FR 262
SIMI. TO FR. 258 EXCEPT SPECIFIED
UPP. DK.
PASS. DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
FLOOR TOP
B.L.
2101011 -17/
FR. 229
~ FR. 248
FR. 229
FR. 231
FR. 235
FR. 239
SIMI. TO FR. 231 EXCEPT SPECIFIED
SEC. 'C'
SEC. 'D'
SEC.
FR. 232
FR. 233
SIMI. TO FR. 231 EXCEPT SPECIFIED
FR. 243
FR. 247
SIMI. TO FR. 231 EXCEPT SPECIFIED
FR. 248
2101011 -18/

178

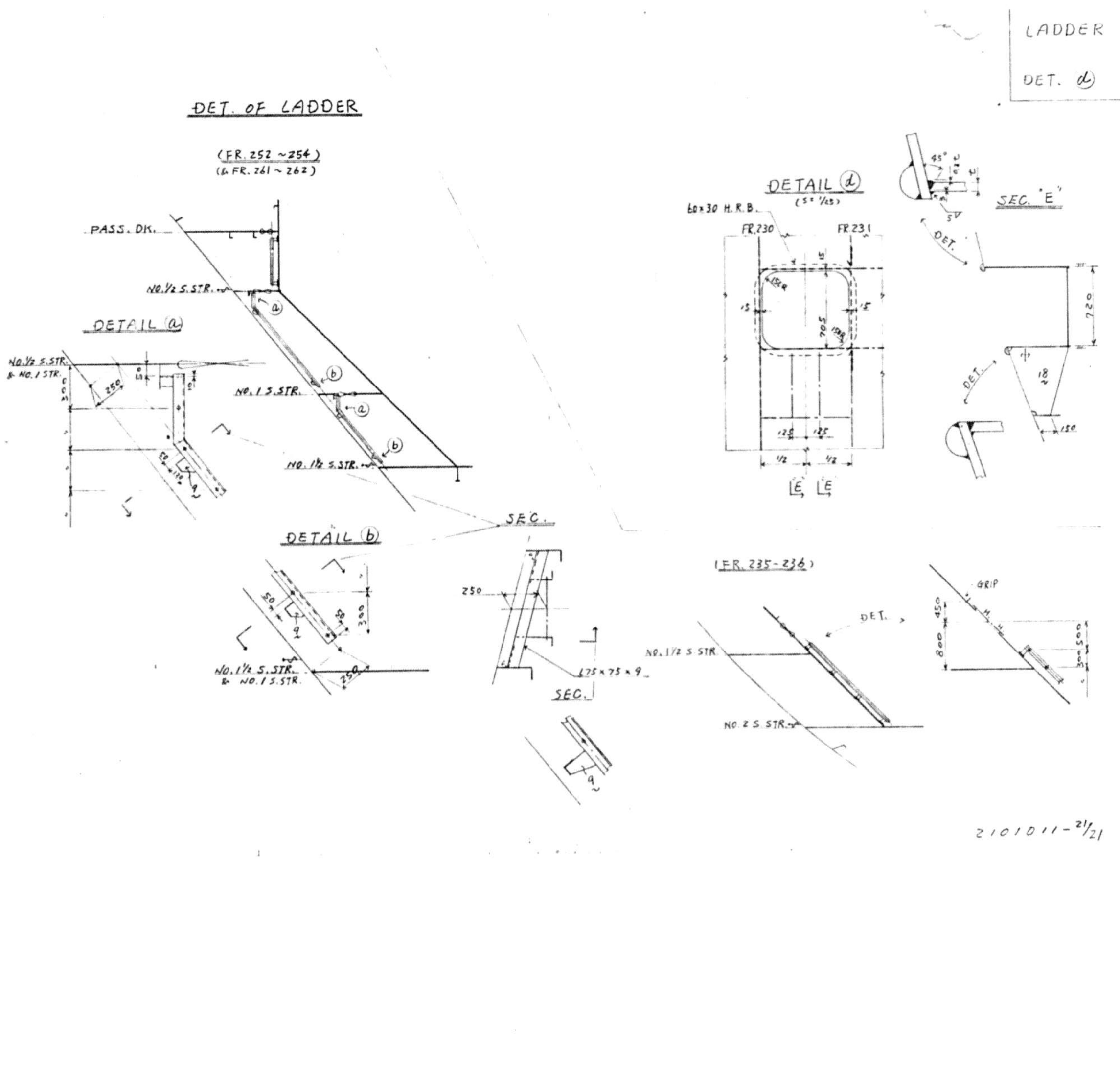


210011-19/



210011-20/

179



2101011 - 21/21

1/3

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.	—	FOLLOWED MES ORIGINAL PLAN	AUG. 23 '85	
-10	Ⓐ	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. REARRANGED BLOCK BUTT JOINTS ON CENTER LINE LONGITUDINAL BOX GIRDER. 2. SHIFTED BLOCK BUTT JOINTS ON HORIZONTAL GIRDER & TRANS WEB OF CONTAINER SUPPORT CONSTRUCTION. 3. PENETRATED PASSAGE DECK PLATE AND LONGITUDINAL BULKHEAD PLATE AT FR. 245 TRANS WEB. 4. REARRANGED SEAM JOINTS ON LONGITUDINAL BULKHEAD. 5. MODIFIED SHAPE OF SLOTS ON WEB IN PASSAGE WAY FROM TYPE AM (WITH COLLAR PLATE TYPE AM1) TO TYPE BM. (REFER TO MIDSHIP SECTION) 6. REARRANGED BLOCK JOINTS ON LONGL BHD, PASSAGE DECK AND SIDE SHELL. 7. ADDED BRACKETS AND SCALLOPS IN WAY OF KNUCKLE PART OF LONGL BHD STIFFENERS. BASED DWG : MES DWG NO. 2101011 (INCL. PARTLY REVISED PLAN NO. 1)	JUL. 2. '85	
-11		FOLLOWED MES PARTLY REVISED PLAN NO. 2	JUL. 31. '85	
-12		Do. NO. 3	SEP. 6. '85	

24 SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION	
	APPROVED	CLASS ABS
	CHECKED	貨物倉構造 (第1倉) CARGO HOLD CONSTRUCTION (NO. 1 HOLD)
	DRAWN	
	SCALE	
	ORDER 01-15800 ~~01-15900~~ ~~01-16400~~	DRAWING NO. HS-11410-F / LYKES REF. NO. 110602

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

0-1

2/3

PLAN RECORD BY MHI (CONTINUE)

ALT. NO.	MARK	DISCRIPTION	DATE	BY
-13	Ⓑ	1. REARRANGED PANEL STIFFENERS ON ▽54, 7, 10 & 13 VERTICAL WEB. 2. SHIFTED BUTT JOINTS OF FACE PLATES ON ▽54 VERTICAL WEB.	SEP. 17. '85	
-14	Ⓒ	ADDED TEMP. CABLE HOLE ON FR. 230 BHD	JUN. 17. '86	
-15	Ⓓ	ADDED TEMP. HOLE ON LONGL BHD AT FR. 248a	JUL. 1. '86	
-F	—	PREPARED AS FINISHED PLAN FOR S. No. 1158	MAR. 11 '87	

HS-11410 0-2

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	28 MAY '85	OFTS/ABS-475						

SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
~~NO. 1323~~	~~DOCTOR LYKES~~	NO. 1158	JAMES LYKES
~~NO. 1324~~	~~ALMERIA LYKES~~	~~NO. 1159~~	~~JOSEPH LYKES~~
~~NO. 1325~~	~~TILLIE LYKES~~	~~NO. 1164~~	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER | SHIP'S NO. | SHIP'S NAME

STRUCTURE DESIGN SEC.
SEC. CHIEF N. Yamamoto
ASSIST. CHIEF
CHARGE ENG'R
STAFF T.G. H.Y.
DATE (TEL 2230)
JOB NO. TS1323/24/25
JCBCLASSIF. NO. 8.01
SCALE 1/100

PARTLY REVISED PLAN NO. 3

貨物倉構造 (第1倉)
CARGO HOLD CONSTRUCTION (NO. 1 HOLD)

LYKES REF. NO. 110602
MITSUI DRAWING NO. 2101011-3

(3 SHEETS WITH COVER)

0-3/

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS	MARCH 22 '85
1	1-1	REVISED ACCORDING TO DISCUSSION WITH OWNER DATED 1ST APR '85	MAY 31 '85
	1-2	REVISED ACCORDING TO DISCUSSION WITH ABS	J.m
	1-3	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	
2	2-1	REVISED ACCORDING TO OWR'S COMMENT BY SUPERINTENDENT IN TAMANO.	JUL. 15 '85
	2-2	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	J.m
3	3-1	REVISED ACCORDING TO ABS REQ.	AUG. 22 '85 H.Y.

DWG. NO. 2101011-3/1

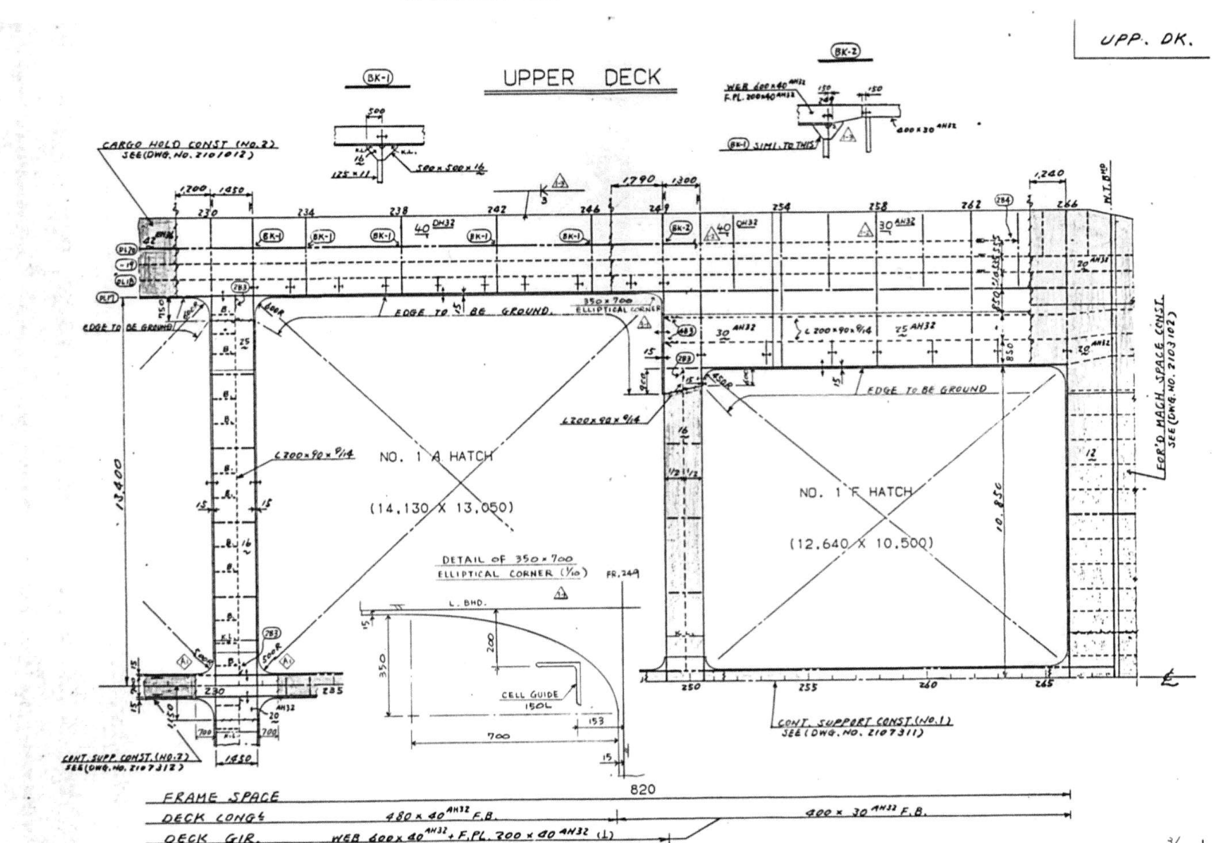
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備　考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
 '構造詳細図（図番 2100811）'を参照のこと。
4. 溶接脚長については，特記の他は
 '溶接脚長表（図番 2100832）'を参照のこと。

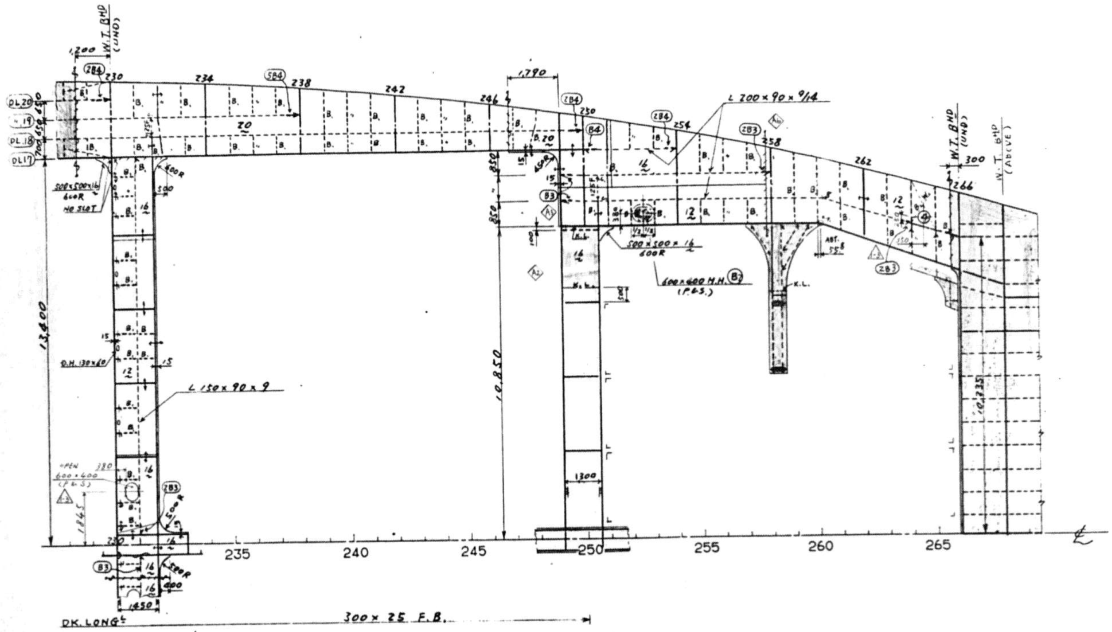
2101011-2/



2101011 3/

PASS. DK.

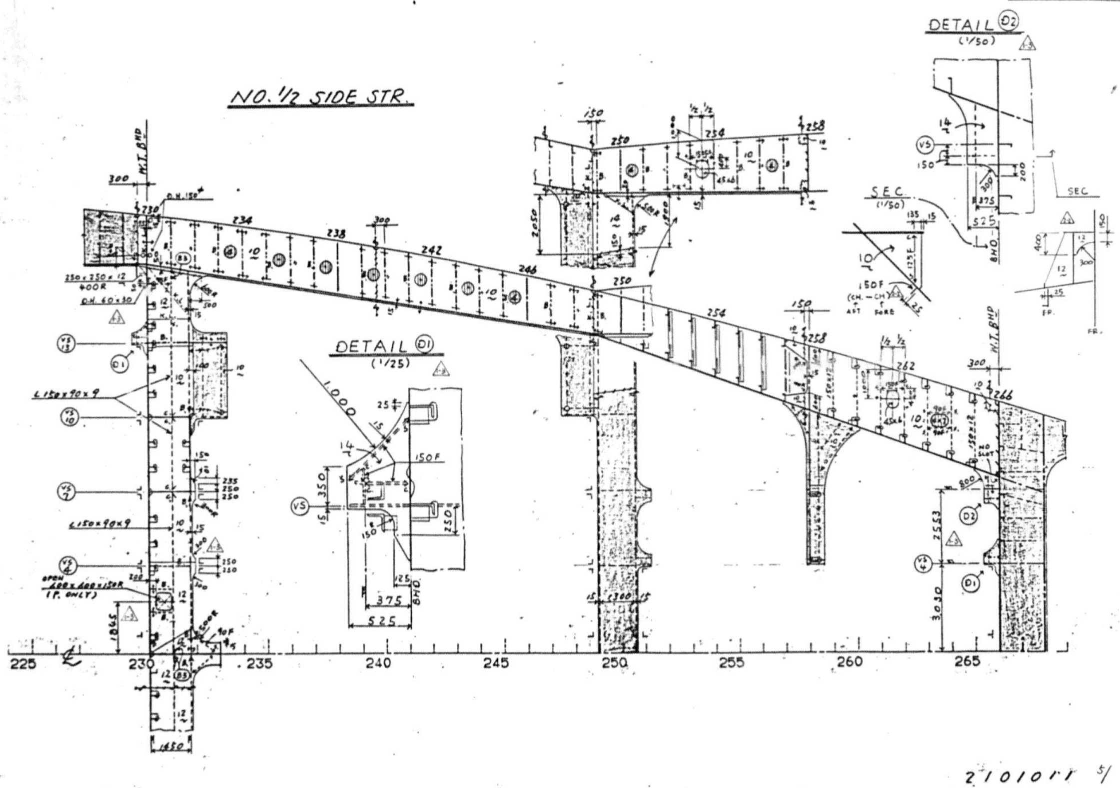
PASSAGE DECK



2 1 0 1 0 1 1 4/

NO. 1/2 S. STR

NO. 1/2 SIDE STR.

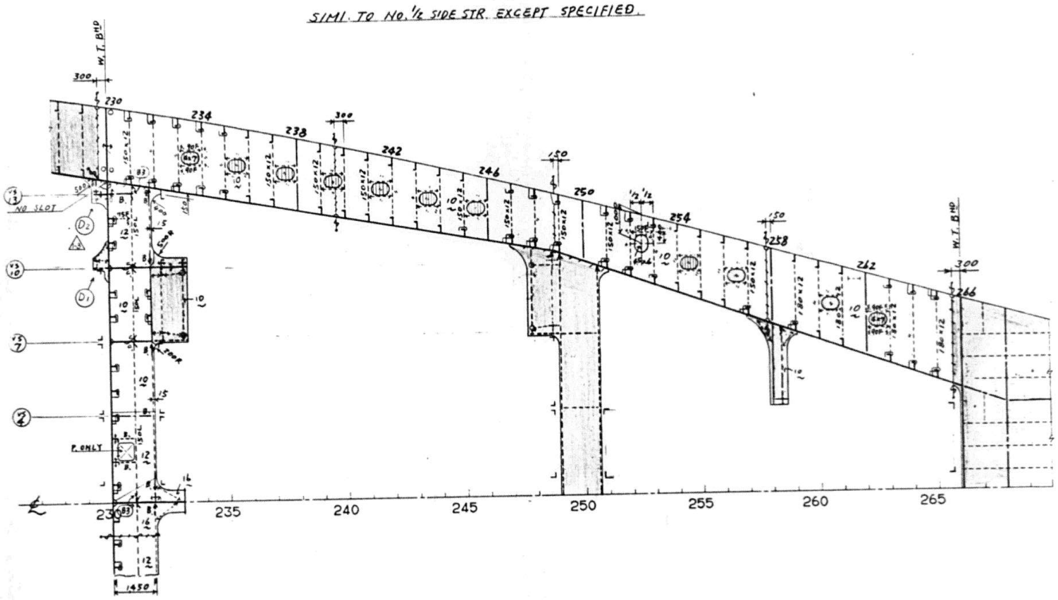


2 1 0 1 0 1 1 5/

NO. 1 S.STR.

NO. 1 SIDE STR.

SIMI. TO NO. 1/2 SIDE STR. EXCEPT SPECIFIED.

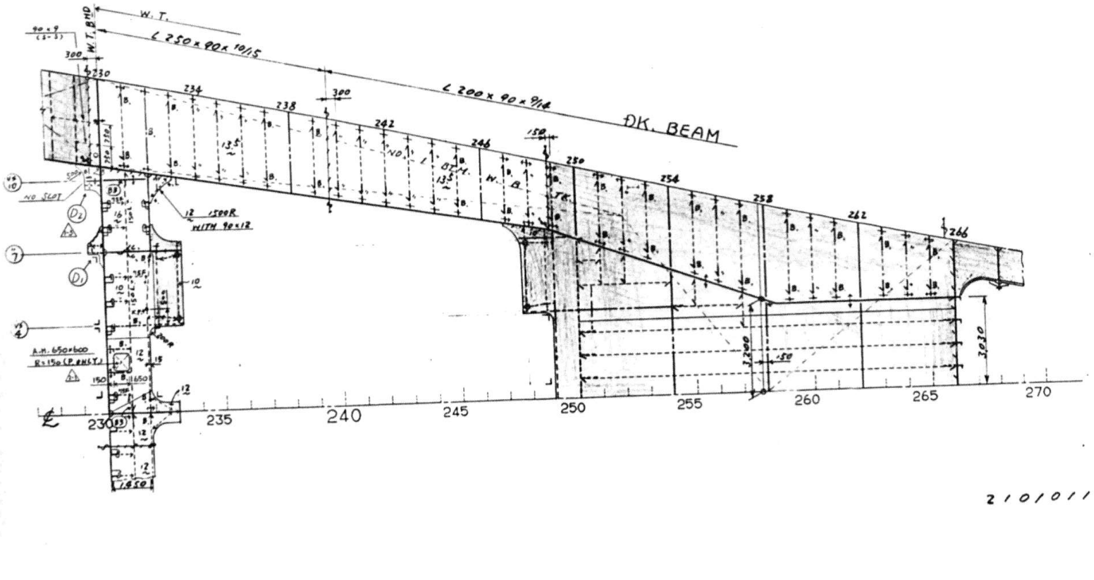


210101 6/

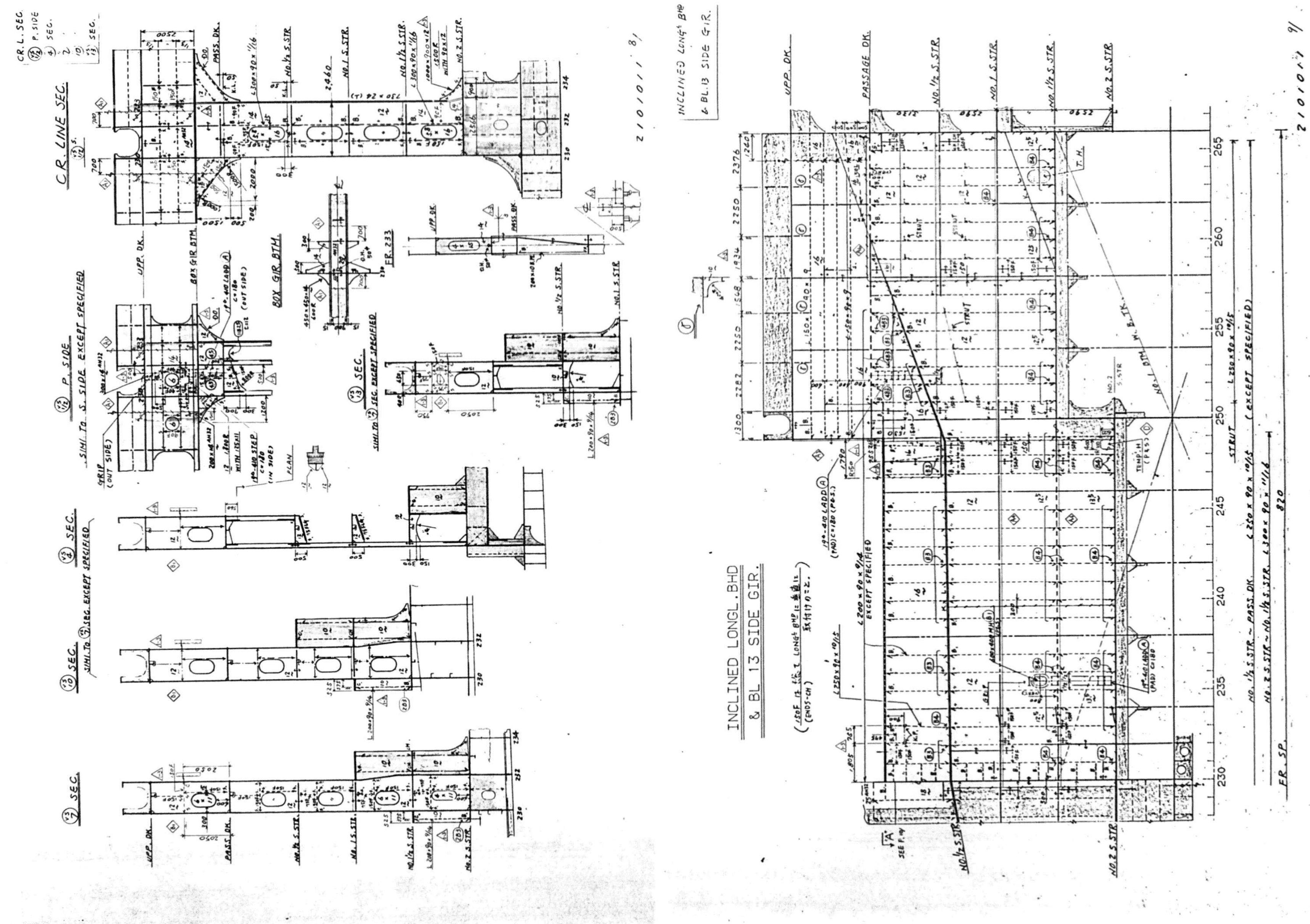
NO. 1½ S.STR.

NO. 1½ SIDE STR.

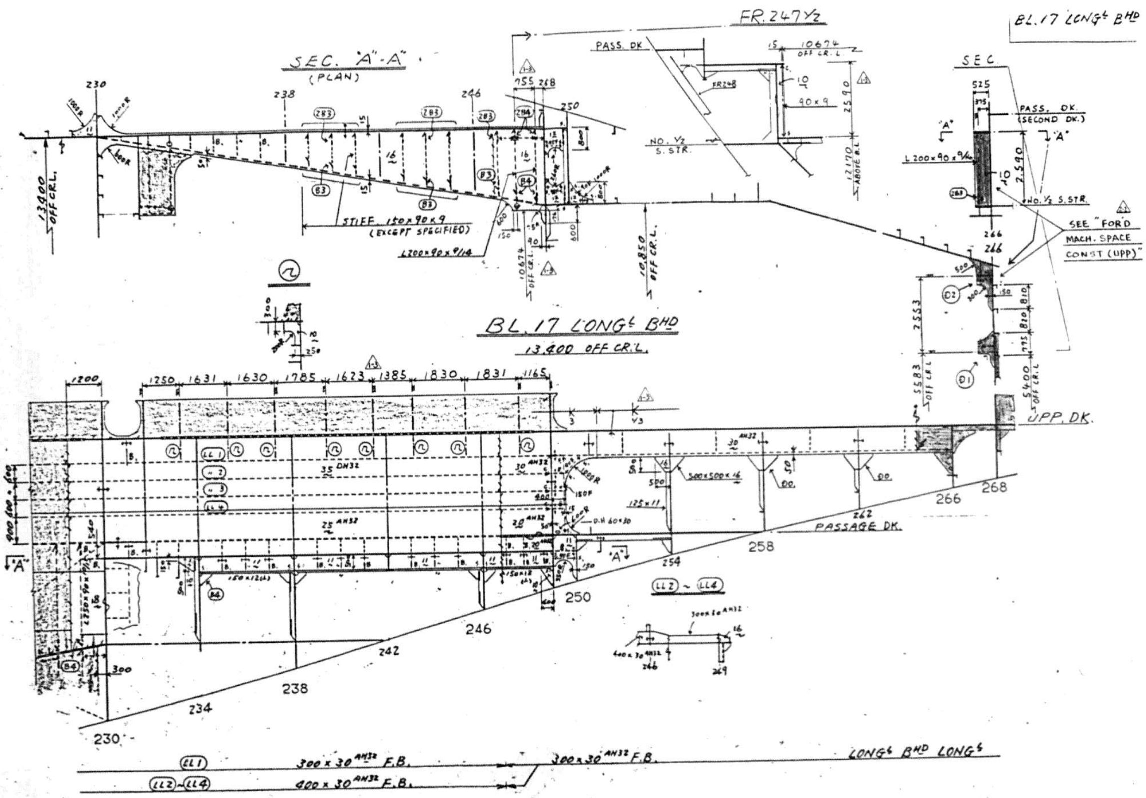
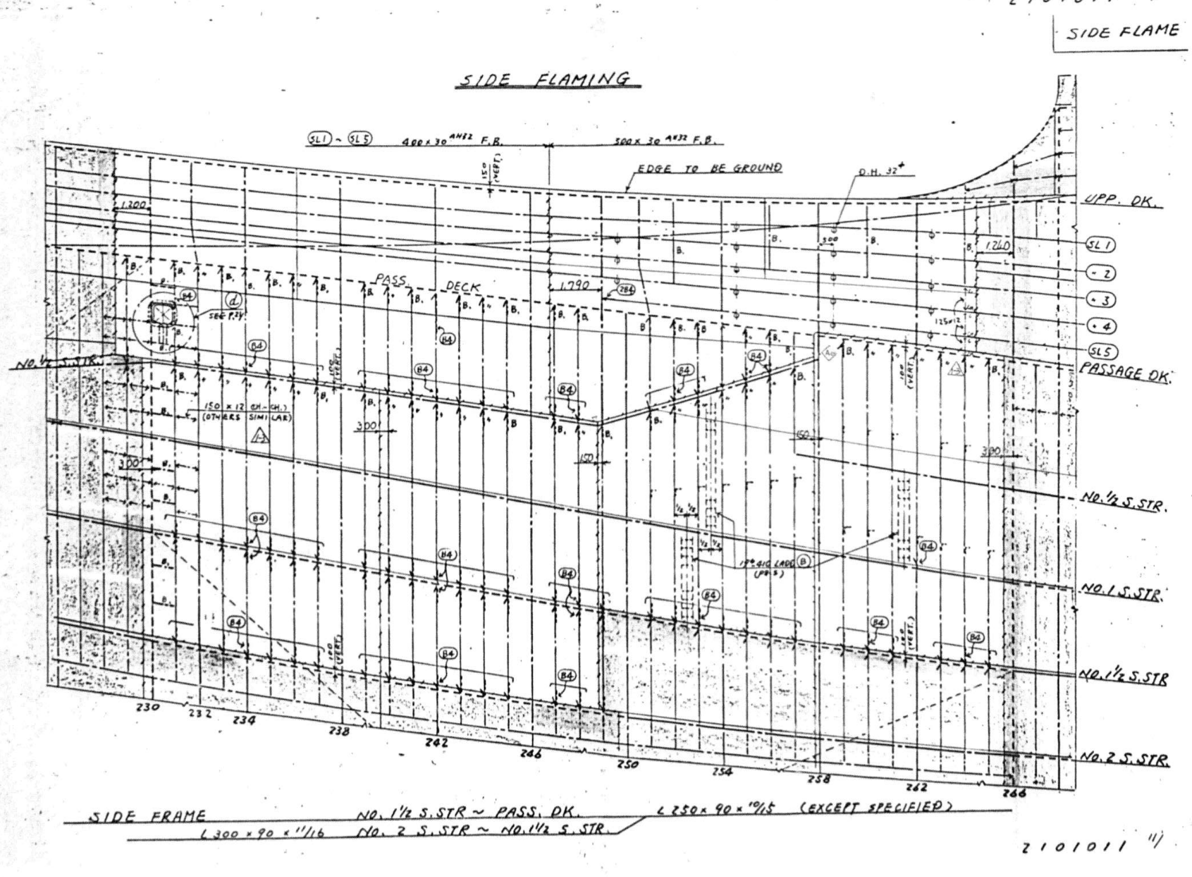
SIMI. TO NO. ½ SIDE STR. EXCEPT SPECIFIED

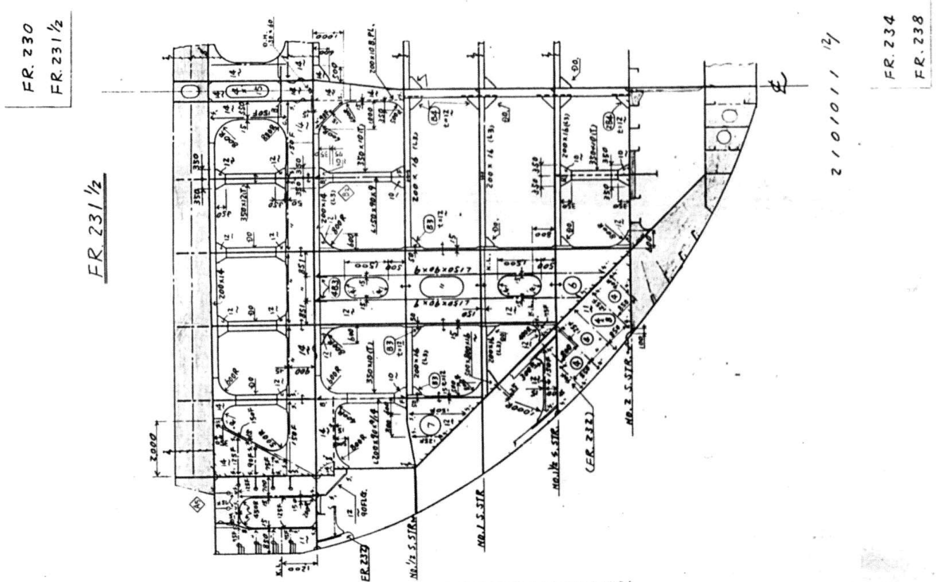


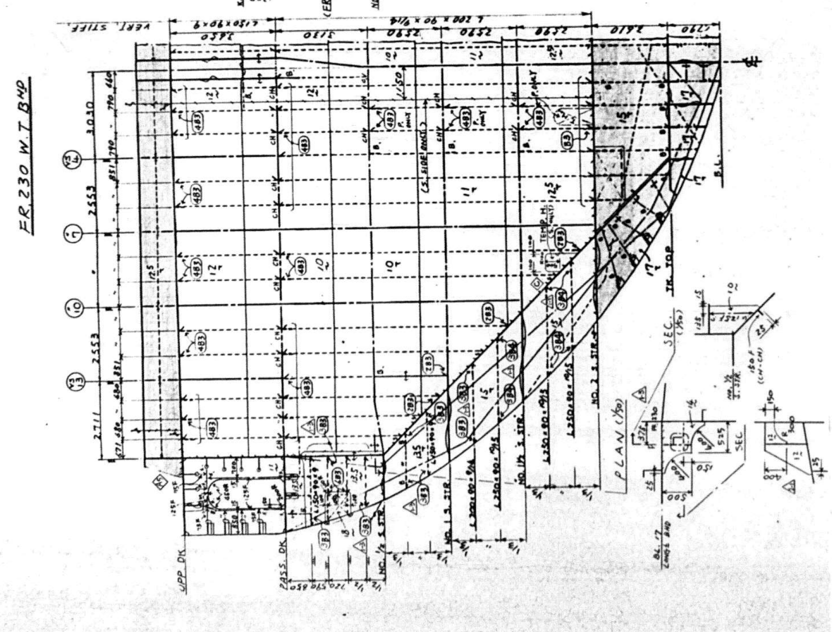
210101 7/

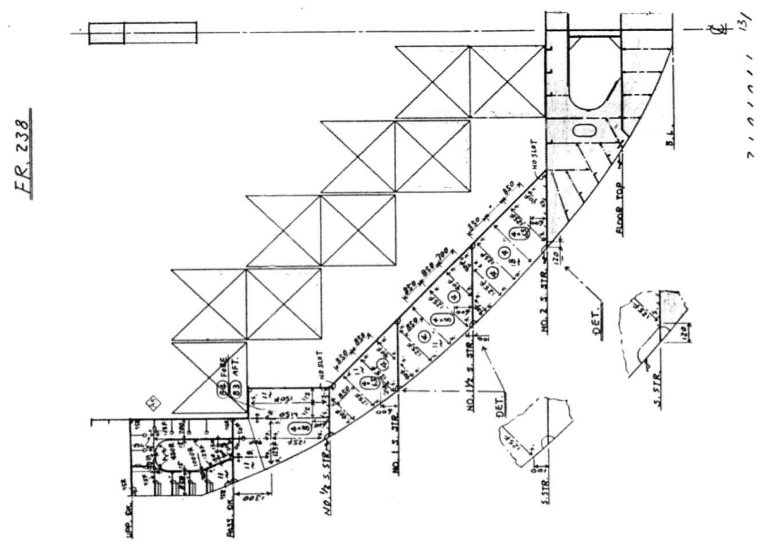


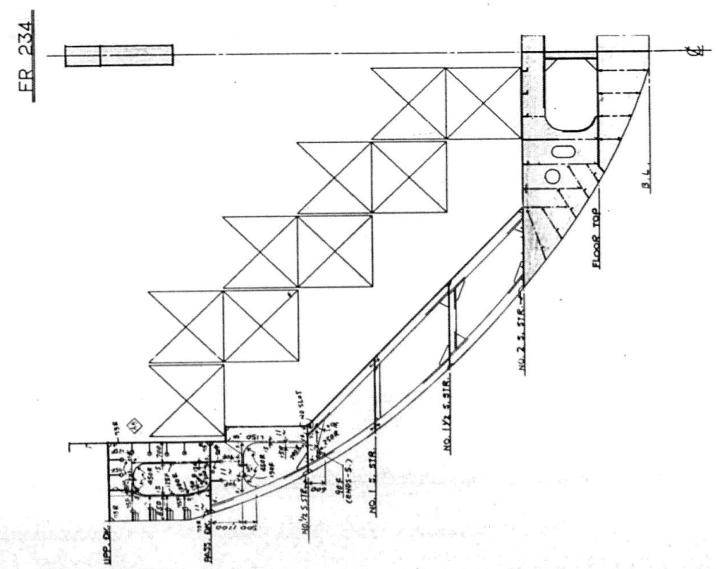
C.R. LINE SEC.
P. SIDE
SIMI. TO S. SIDE EXCEPT SPECIFIED
SEC.
BOX GIR. BTM.
FR. 233
INCLINED LONGL. BHD
& BL 13 SIDE GIR.
UPP. DK.
PASSAGE DK.
NO. 1½ S. STR.
NO. 1 S. STR.
NO. 2 S. STR.
STRUT
FR. SP.
210101 81
210101 91

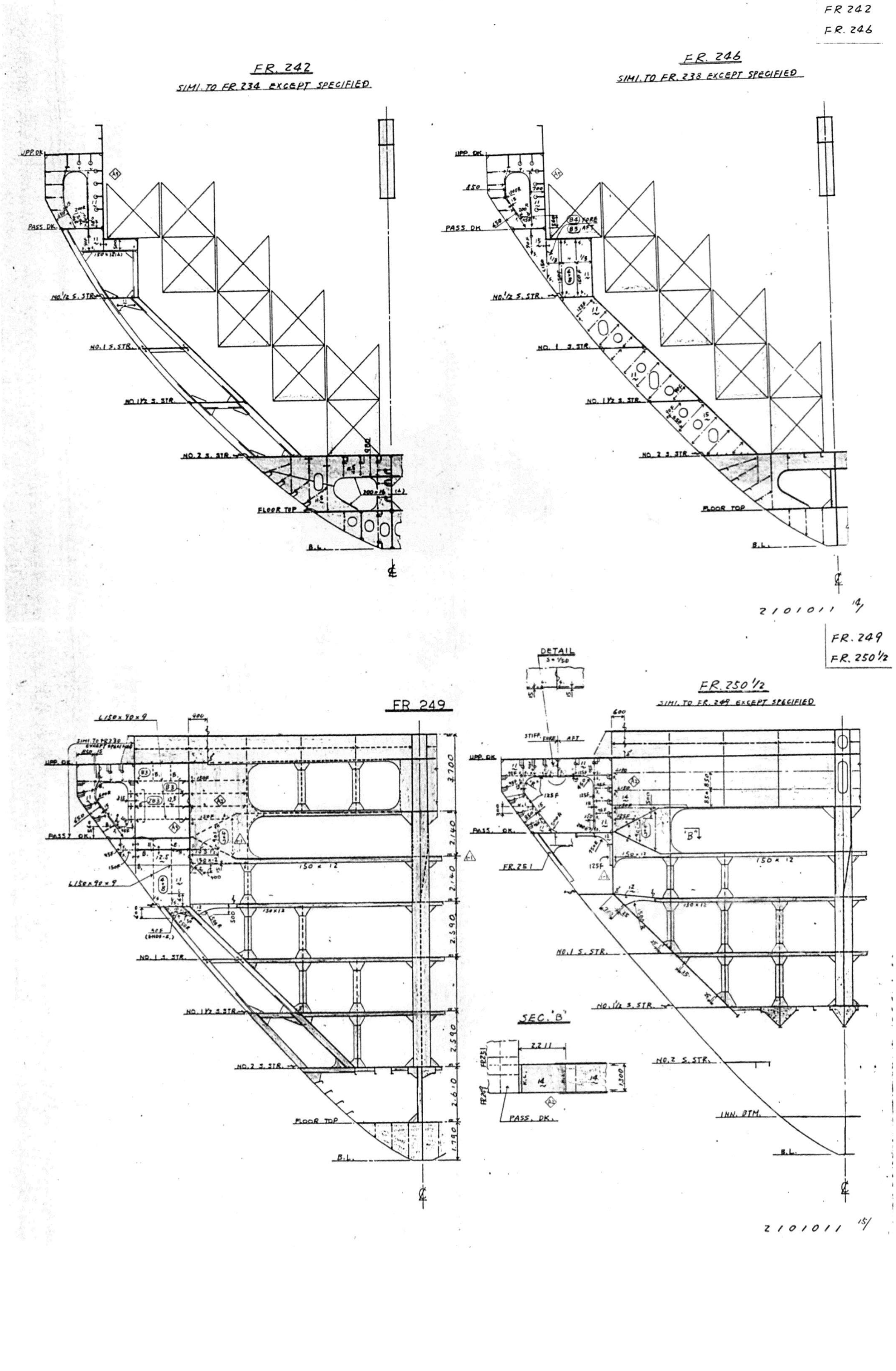

BL.17 LONG'L BHD
SEC. "A"-"A" (PLAN)
FR.247½
PASS. DK
NO. ½ S. STR.
STIFF 150×90×9 (EXCEPT SPECIFIED)
SEC
PASS. DK. (SECOND DK.)
SEE "FORD MACH. SPACE CONST (UPP)"
BL.17 LONG'L BHD
13,400 OFF CR.L.
UPP. DK.
PASSAGE DK.
(LL1) 300×30 AH32 F.B.
(LL2)~(LL4) 400×30 AH32 F.B.
300×30 AH32 F.B.
LONG'L BHD LONG'L
Z101011 10/

SIDE FLAME
SIDE FLAMING
(SL1)~(SL5) 400×30 AH32 F.B.
500×30 AH32 F.B.
EDGE TO BE GROUND
UPP. DK.
PASS. DECK
PASSAGE DK.
NO. ½ S. STR.
NO. 1 S. STR.
NO. 1½ S. STR
NO. 2 S. STR.
SIDE FRAME
NO. 1½ S. STR ~ PASS. DK. L 250×90×10/15 (EXCEPT SPECIFIED)
L 300×90×11/16 NO. 2 S. STR ~ NO. 1½ S. STR.
Z101011 11/


FR. 230
FR. 231 1/2
FR 231 1/2
NO. 1 S. STR.
NO. 2 S. STR.


FR 230 W.T. BHD
UPP. DK
PLAN (1/50)
SEC.
TK. TOP
B.L.


FR. 234
FR. 238
FR 238
FLOOR TOP
DET.
B.L.
UPP. DK
NO. 1 S. STR.
NO. 2 S. STR.


FR 234
FLOOR TOP
B.L.
UPP. DK
NO. 1 S. STR.
NO. 2 S. STR.


FR 242
FR. 246
FR. 242
SIMI. TO FR 234 EXCEPT SPECIFIED
FR. 246
SIMI. TO FR. 238 EXCEPT SPECIFIED
UPP. DK.
PASS. DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
FLOOR TOP
B.L.
2101011 14/
FR. 249
FR. 250 1/2
DETAIL
FR 249
FR. 250 1/2
SIMI. TO FR. 249 EXCEPT SPECIFIED
L 150 × 90 × 9
150 × 12
2,700
2,140
2,140
2,590
2,590
2,610
1,790
FR. 251
SEC. 'B'
PASS. DK.
INN. BTM.
2101011 15/

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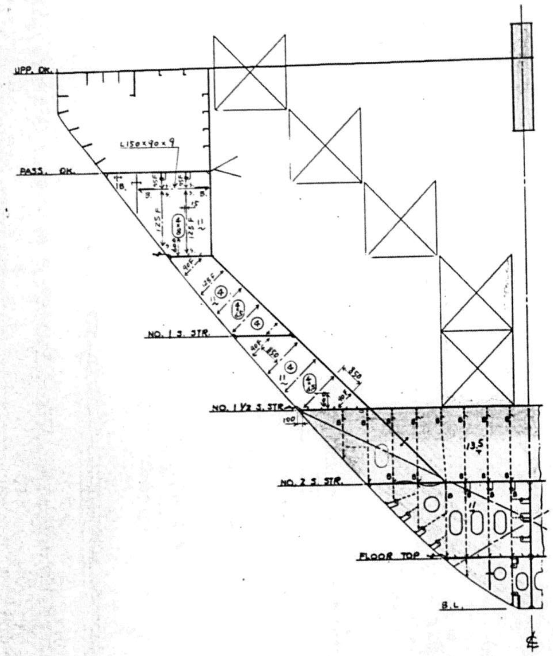
FR. 250
FR. 254

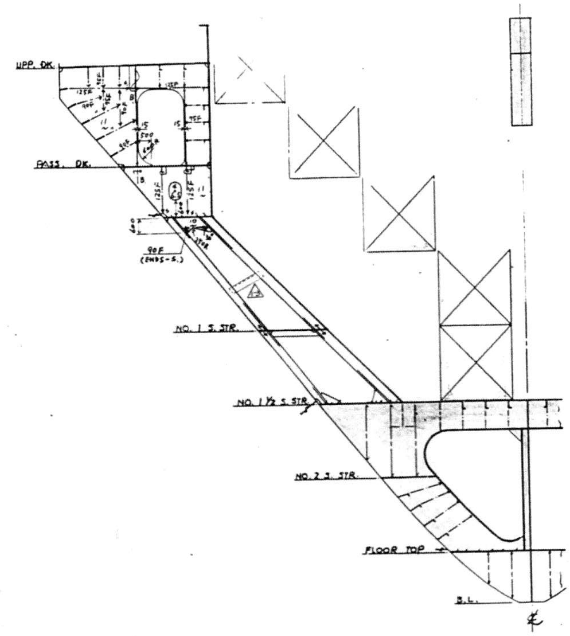
FR. 250

SIMI. TO FR. 238 EXCEPT SPECIFIED



FR. 254

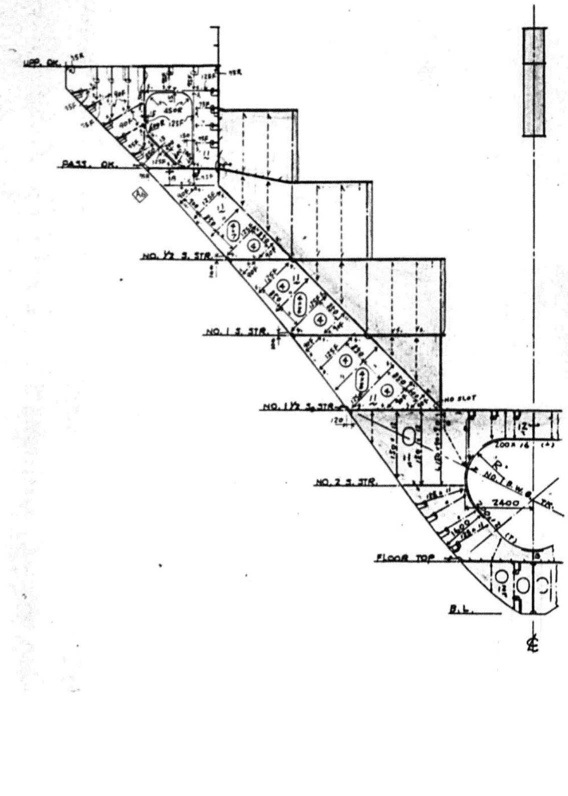
SIMI. TO FR. 258 EXCEPT SPECIFIED



2101011 16/

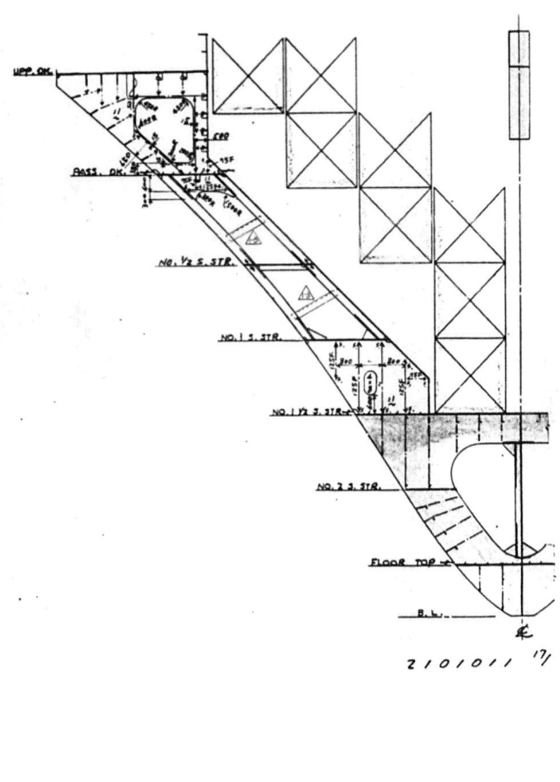
FR. 258
FR. 262

FR. 258

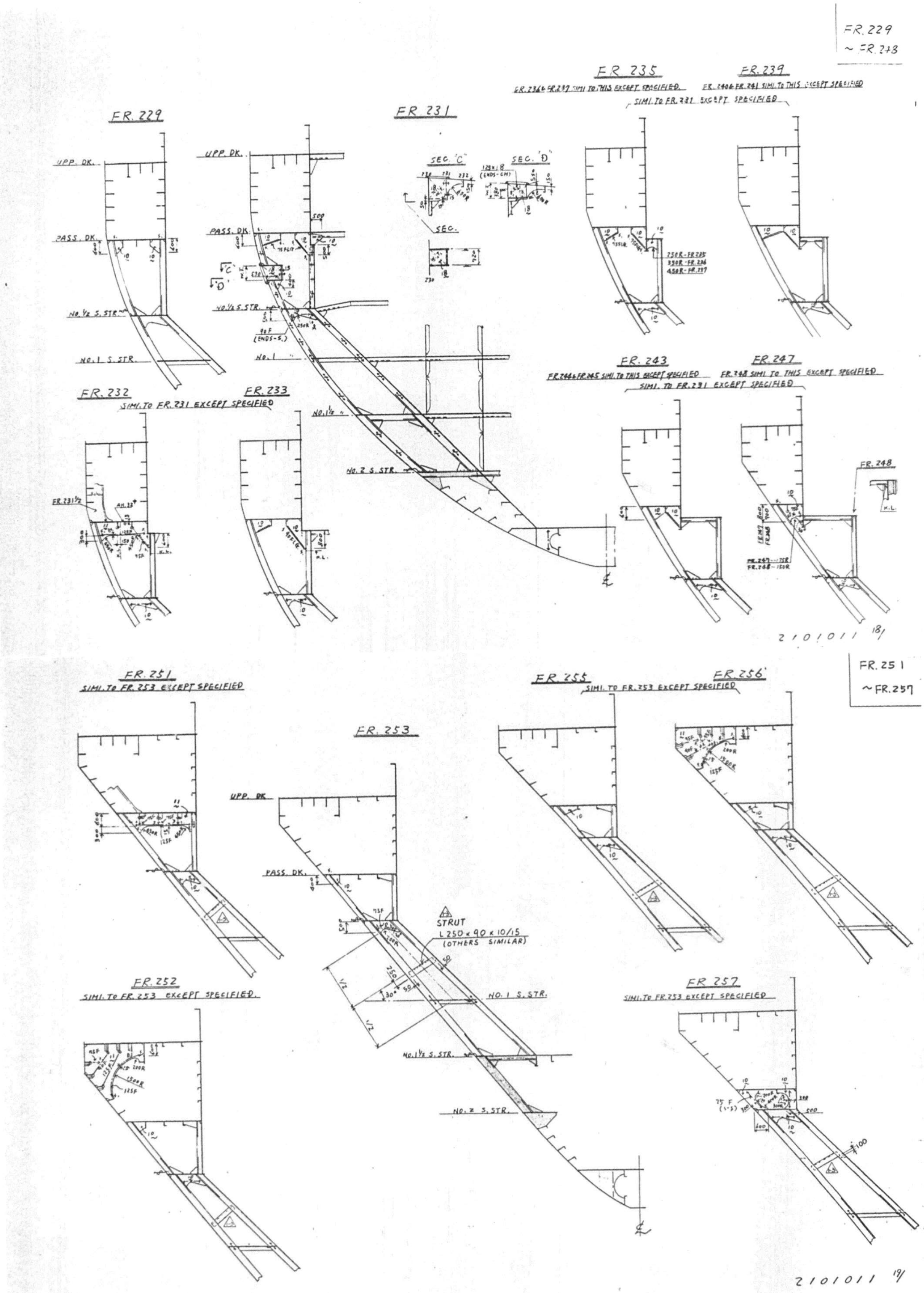


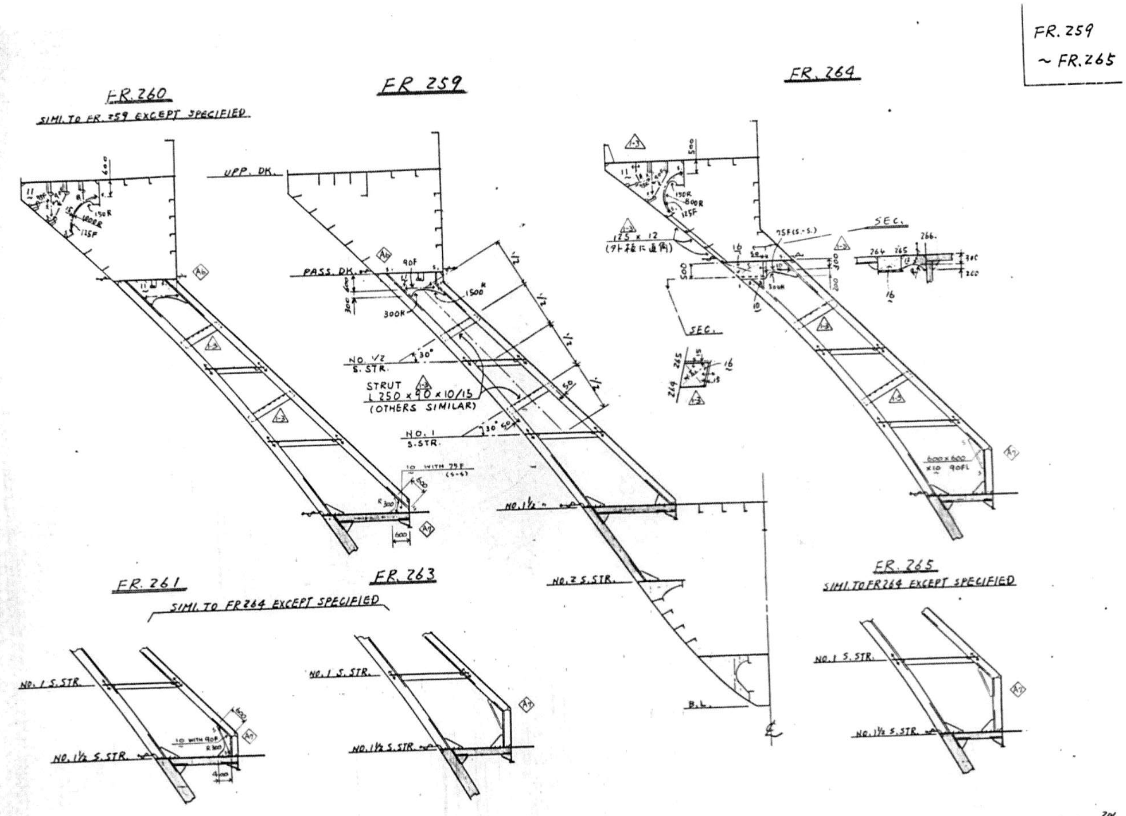
FR. 262

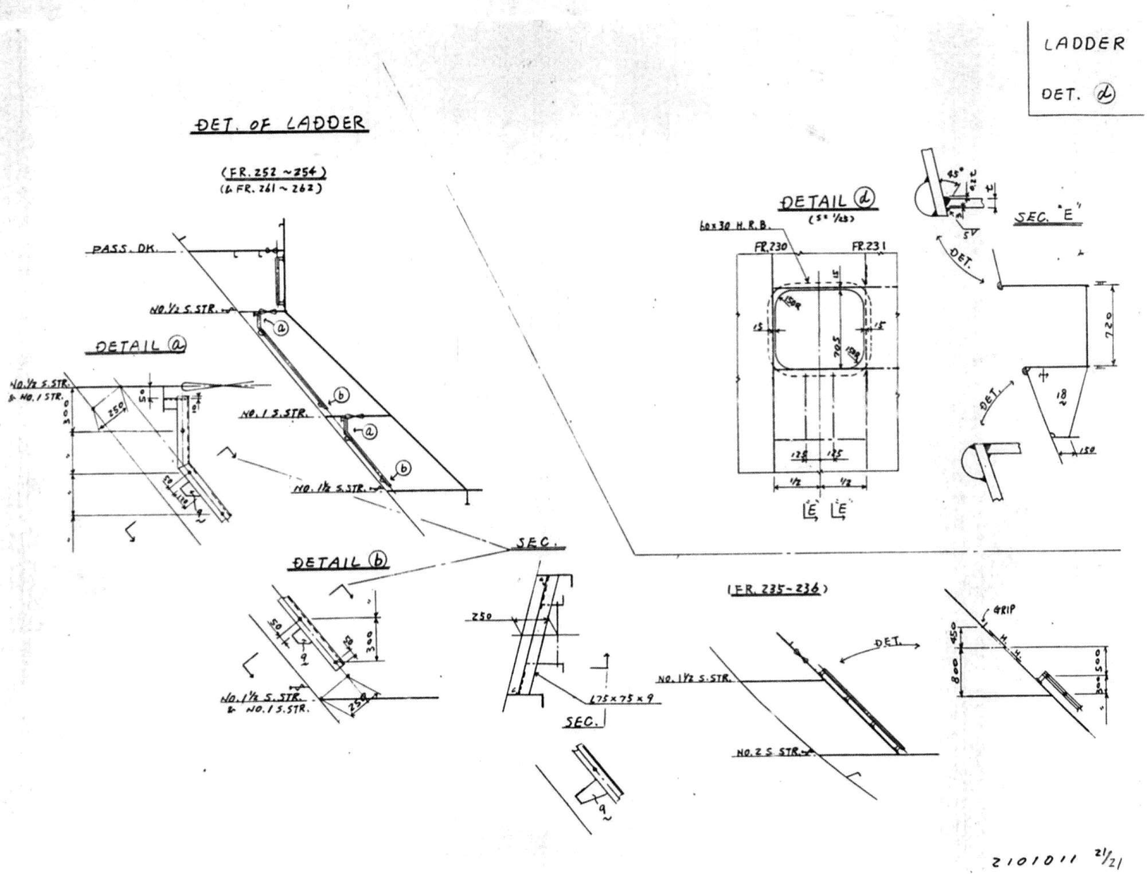
SIMI. TO FR. 258 EXCEPT SPECIFIED



2101011 17/


FR. 229
~ FR. 243
FR. 229
UPP. DK.
PASS. DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
FR. 231
SEC. 'C'
SEC. 'D'
SEC.
NO. 1/2 S. STR.
NO. 1
NO. 1 1/2
NO. 2 S. STR.
FR. 232
SIMI. TO FR. 231 EXCEPT SPECIFIED
FR. 233
FR. 235
FR. 236 & FR. 237 SIMI. TO THIS EXCEPT SPECIFIED
SIMI. TO FR. 231 EXCEPT SPECIFIED
FR. 239
FR. 240 & FR. 241 SIMI. TO THIS EXCEPT SPECIFIED
250R - FR. 235
350R - FR. 236
450R - FR. 237
FR. 243
FR. 244 & FR. 245 SIMI. TO THIS EXCEPT SPECIFIED
SIMI. TO FR. 231 EXCEPT SPECIFIED
FR. 247
FR. 248 SIMI. TO THIS EXCEPT SPECIFIED
FR. 248
2101011 18/
FR. 251
~ FR. 257
FR. 251
SIMI. TO FR. 253 EXCEPT SPECIFIED
FR. 253
UPP. DK.
PASS. DK.
STRUT
L 250 x 90 x 10/15
(OTHERS SIMILAR)
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
FR. 255
SIMI. TO FR. 253 EXCEPT SPECIFIED
FR. 256
FR. 252
SIMI. TO FR. 253 EXCEPT SPECIFIED.
FR. 257
SIMI. TO FR. 253 EXCEPT SPECIFIED
2101011 19/


FR.259
~ FR.265
FR.260
SIMI. TO FR.259 EXCEPT SPECIFIED
FR 259
UPP. DK.
PASS. DK.
NO. 1/2 S. STR.
STRUT
L 250 x 90 x 10/15
(OTHERS SIMILAR)
NO. 1 S. STR.
NO. 1½
NO. 2 S. STR.
B.L.
FR.264
SEC.
FR.261
FR.263
SIMI. TO FR264 EXCEPT SPECIFIED
NO. 1 S. STR.
NO. 1½ S. STR.
FR.265
SIMI. TO FR264 EXCEPT SPECIFIED
Z 101011 20


LADDER
DET. ⓓ
DET. OF LADDER
(FR.252 ~ 254)
(& FR.261 ~ 262)
PASS. DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1½ S. STR.
DETAIL ⓐ
DETAIL ⓑ
SEC.
L75 x 75 x 9
DETAIL ⓓ
60x30 H.R.B.
FR.230
FR.231
SEC. "E"
DET.
(FR.235 ~ 236)
GRIP
NO. 1½ S. STR.
NO. 2 S. STR.
Z 101011 21/21

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APPROVAL OF OWNER & REGULATORY BODIES								
ALT.NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	1 MAY '84	OFTS/MES-371						
1ST REV	4 JUL '84	OFTS/MES-662			24 JUL '84	7-8-2		
1ST PART REV	16 AUG '84	TAM/38			17 SEP '84	7-8-2		
2ND PART REV	7 AUG '84	TAM/51			4 OCT '84	7-8-2		
3RD PART REV	7 SEP '84	TAM/50			4 OCT '84	7-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER: [signature]
STRUCTURE DESIGN SEC.
SEC.CHIEF
SHIP'S NO. 1325
SHIP'S NAME **TILLIE LYKES**

貨物倉構造（第2倉）
CARGO HOLD CONSTRUCTION (NO. 2 HOLD)

DATE (TEL)
JOB NO. TS1323/24/25
JOBCLASSIF.NO.
SCALE 1/100
LYKES REF. NO. 110603
MITSUI DRAWING NO. 2101012

(30 SHEETS WITH COVER)

PLAN RECORD			
ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV. 28.'86

DWG.NO. 2101012-1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備 考:-

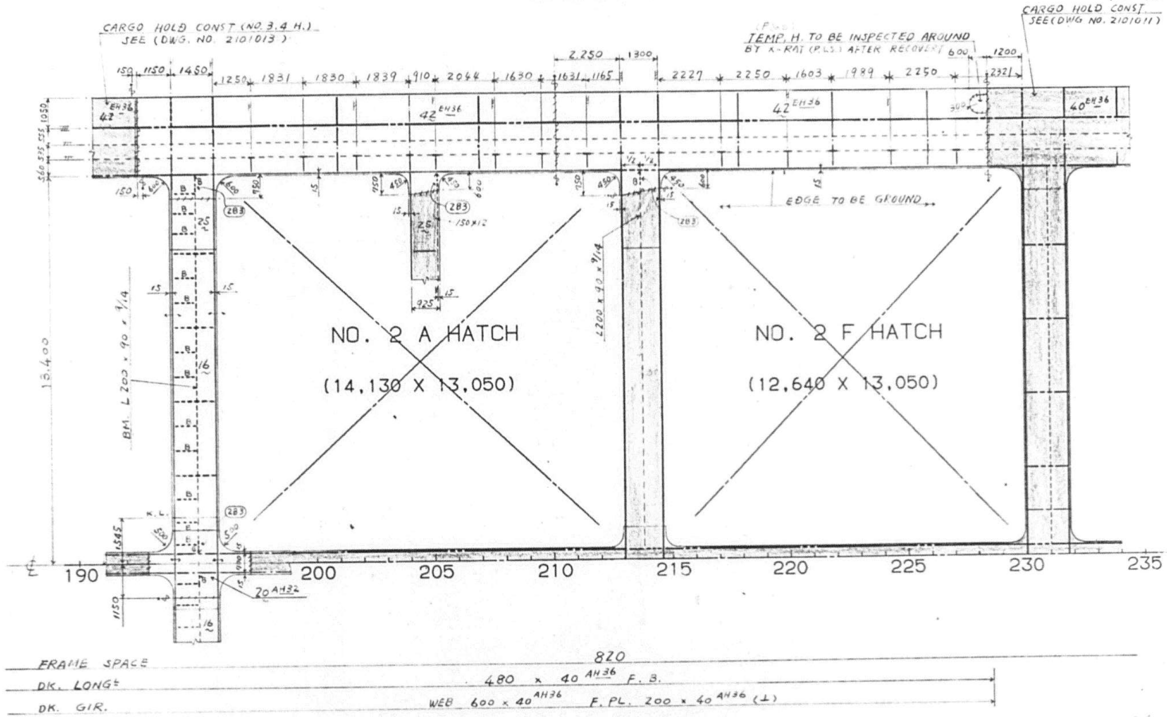
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は "構造詳細図（図番 2100811）" を参照のこと。
4. 溶接脚長については，特記の他は "溶接脚長表（図番 2100832）" を参照のこと。

2101012-2/

192

UPP. DECK

UPPER DECK PLAN

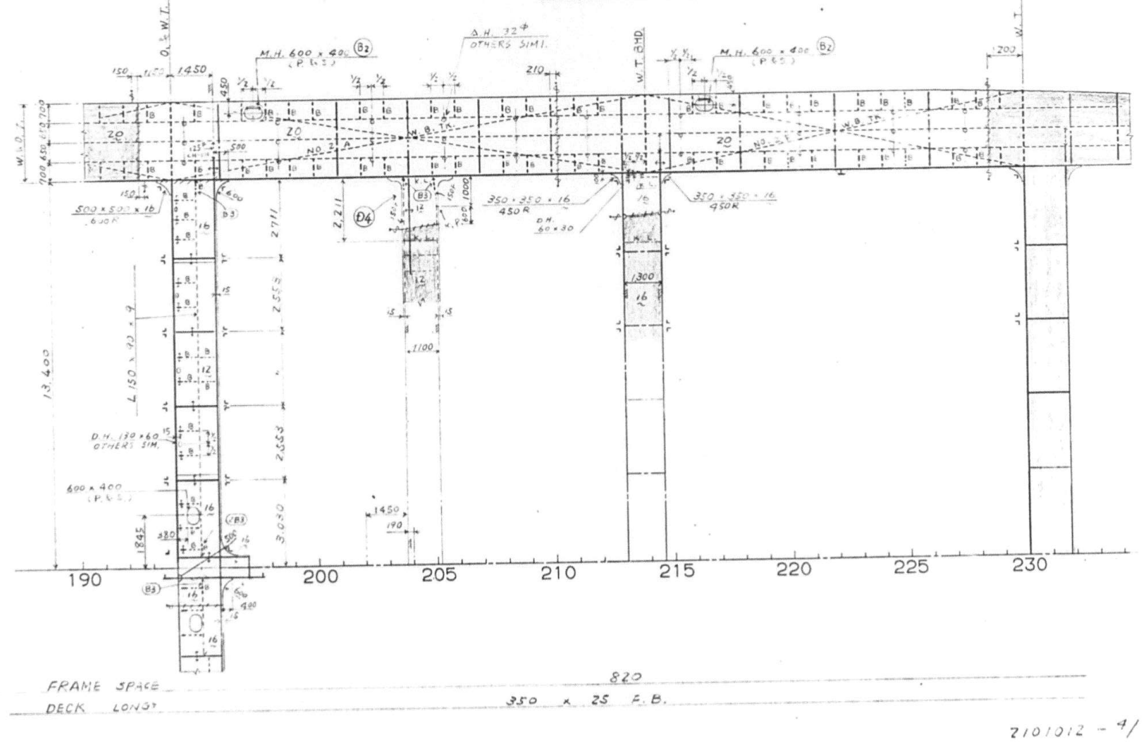


2101012 - 3/

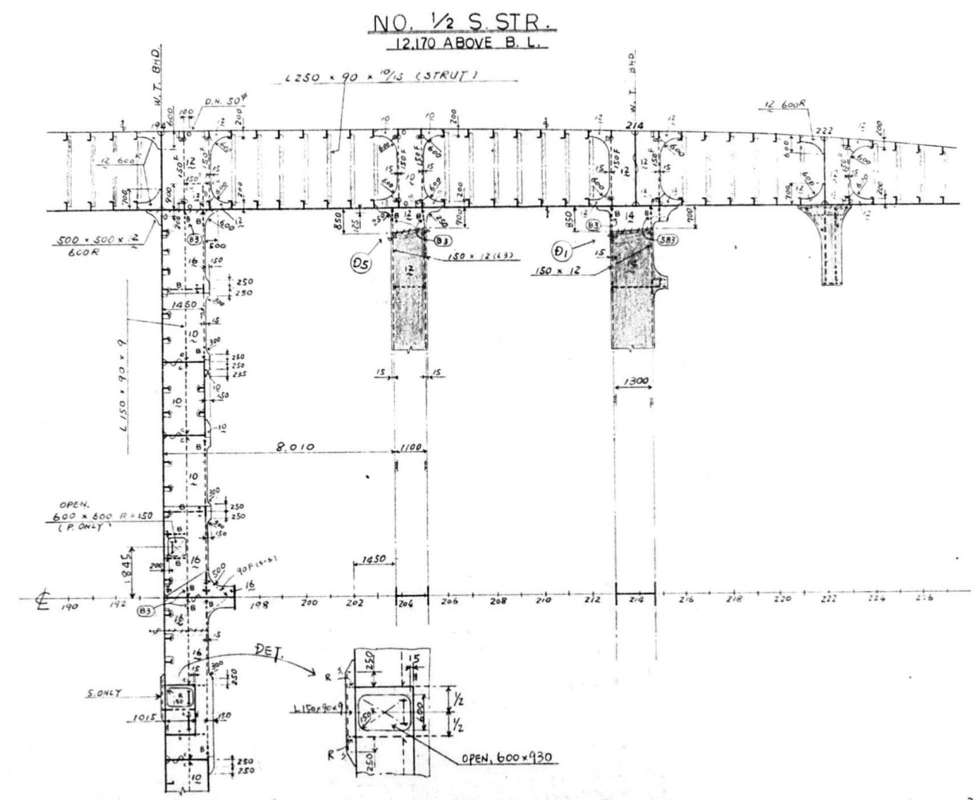
PASS. DECK

PASSAGE DECK PLAN

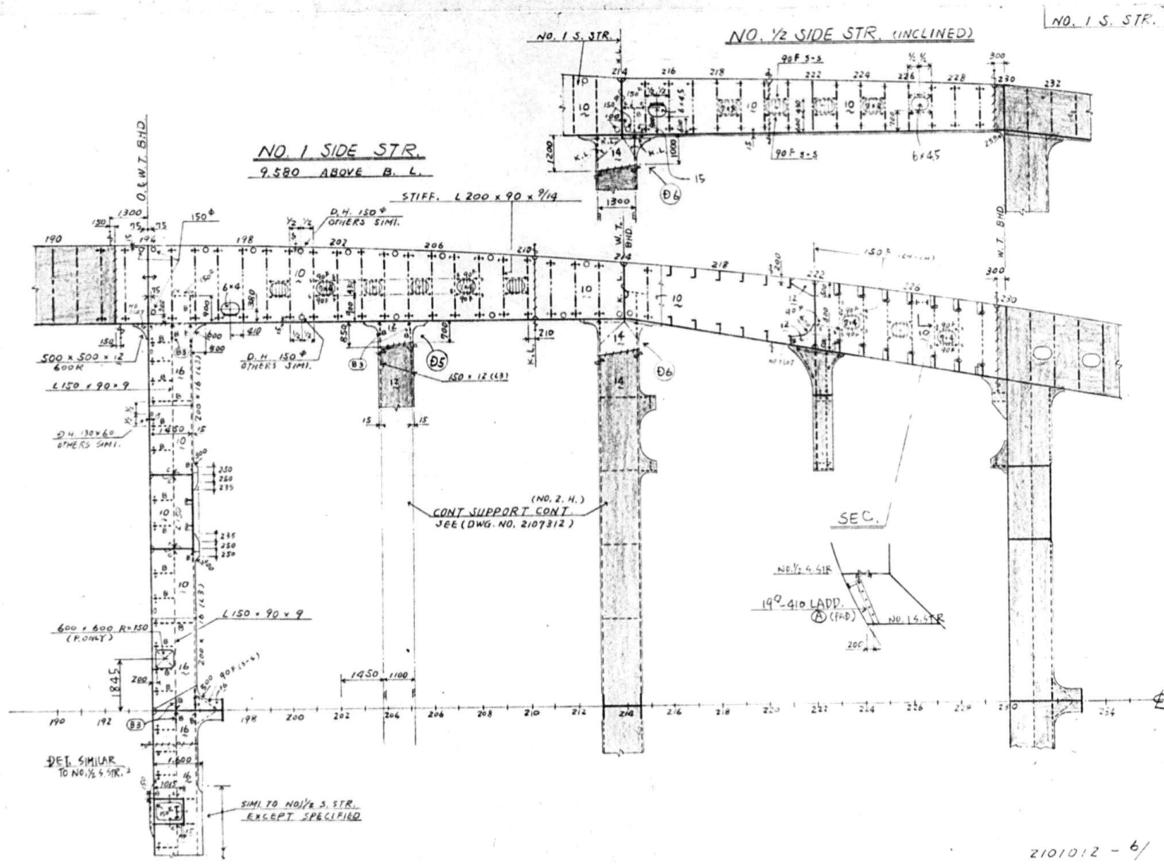
15,300 ABOVE B. L.



2101012 - 4/

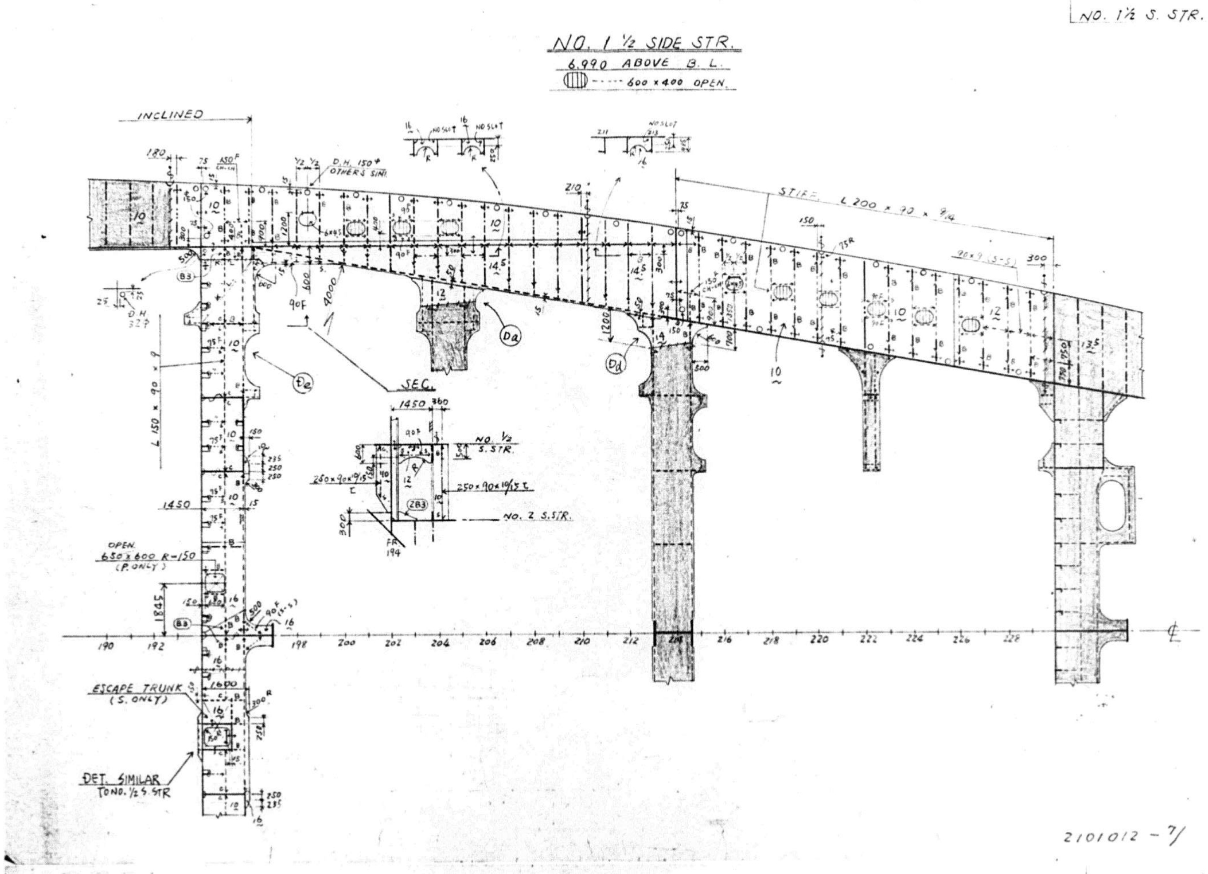


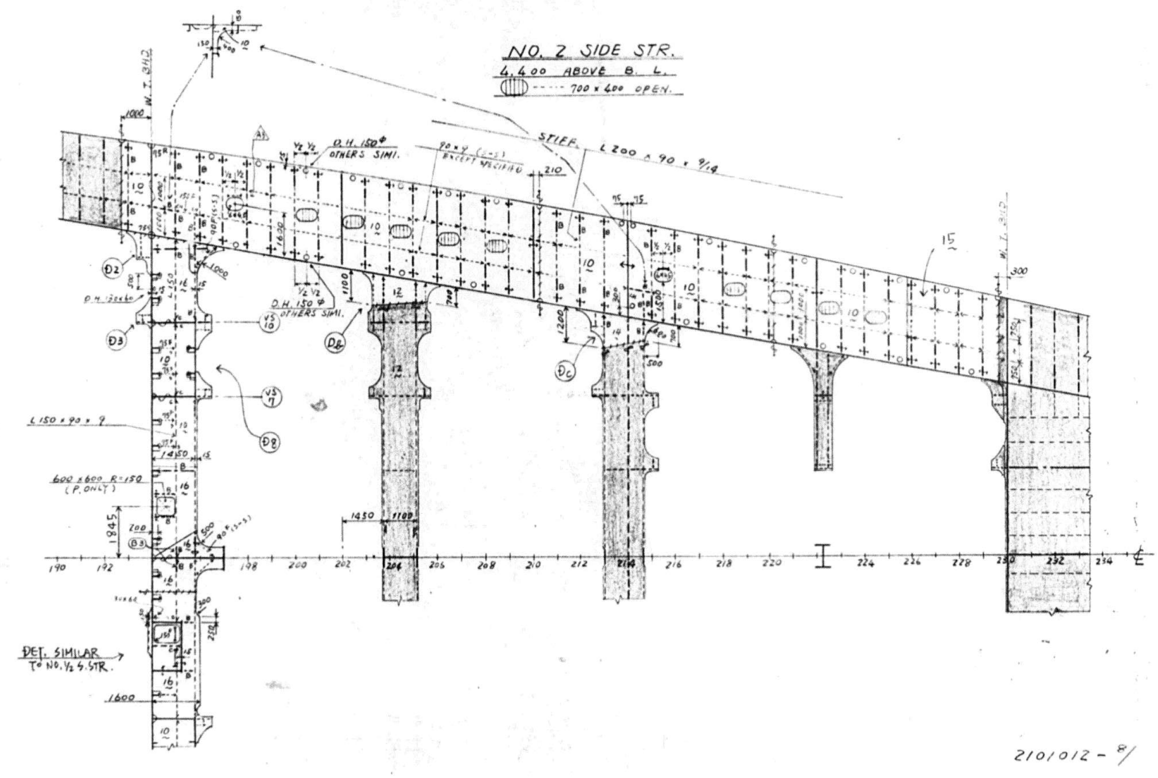
2101012 – 5/



2101012 – 6/

194


NO. 1½ S. STR.
NO. 1 ½ SIDE STR.
6,990 ABOVE B. L.
600 x 400 OPEN.
INCLINED
STIFF. L 200 x 90 x 9/14
SEC.
NO. ½ S. STR.
NO. 2 S. STR.
L 150 x 90 x 9
OPEN. 650 x 600 R-150 (P. ONLY)
ESCAPE TRUNK (S. ONLY)
DET. SIMILAR TO NO. ½ S. STR.
2101012 - 7/

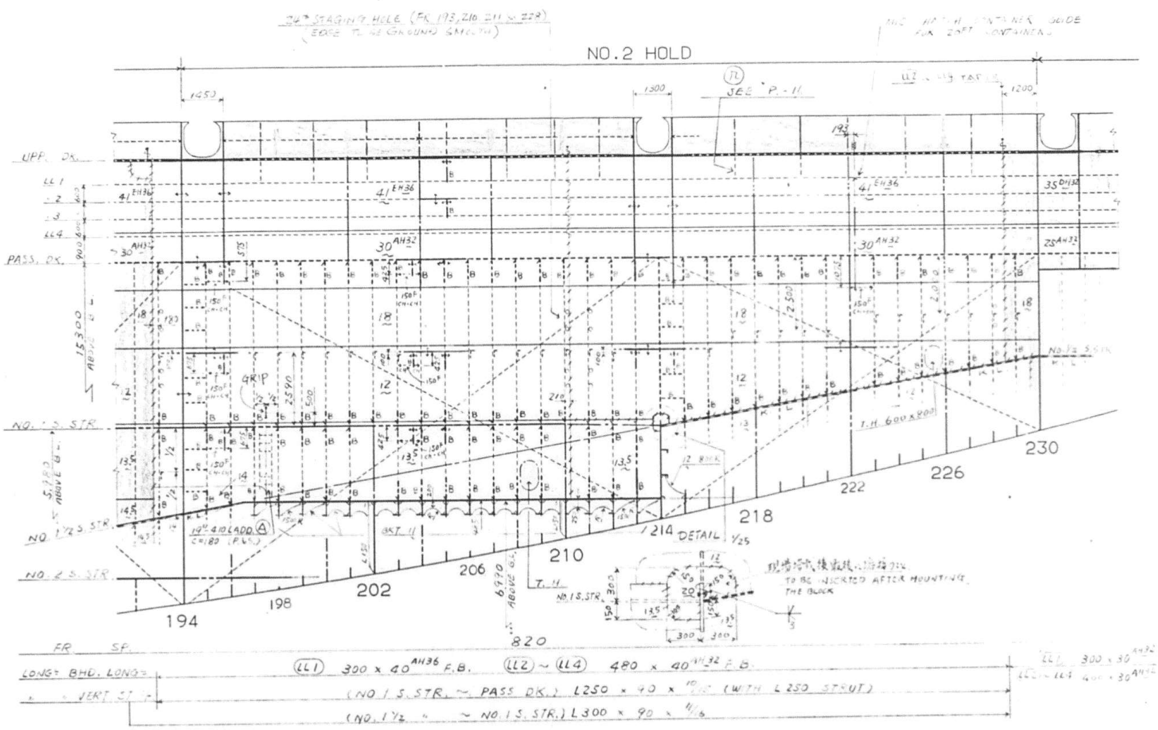

NO. 2 S. STR.
NO. 2 SIDE STR.
4,400 ABOVE B. L.
700 x 400 OPEN.
STIFF. L 200 x 90 x 9/14
D.H. 150ᶲ OTHERS SIMI.
L 150 x 90 x 9
600 x 600 R-150 (P. ONLY)
DET. SIMILAR TO NO. ½ S. STR.
2101012 - 8/

195

BL 17 LONG⁴ BHD.

BL 17 LONG⁴ BHD.

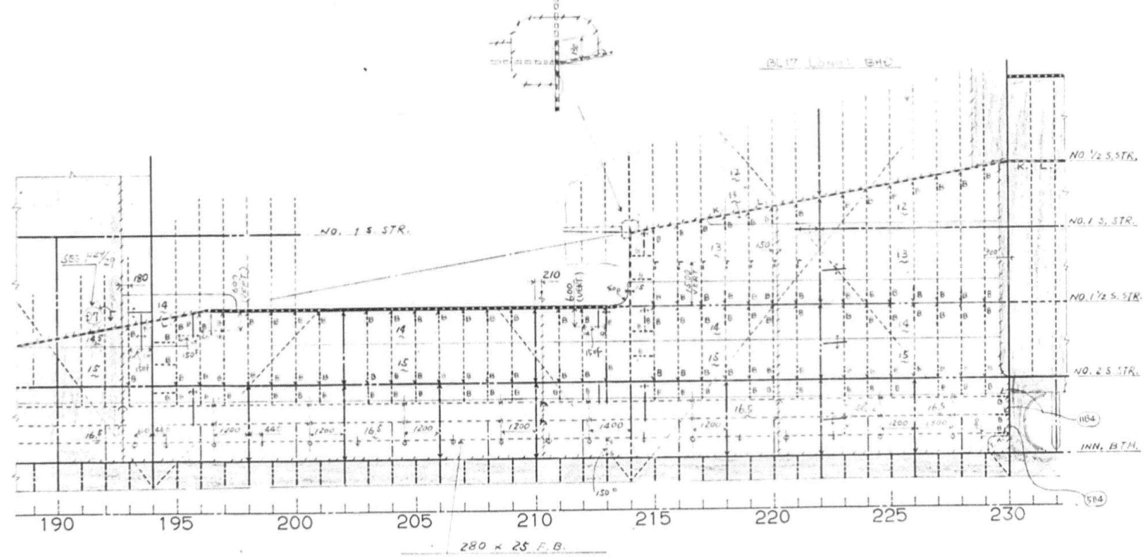
13,400 OFF CR LINE



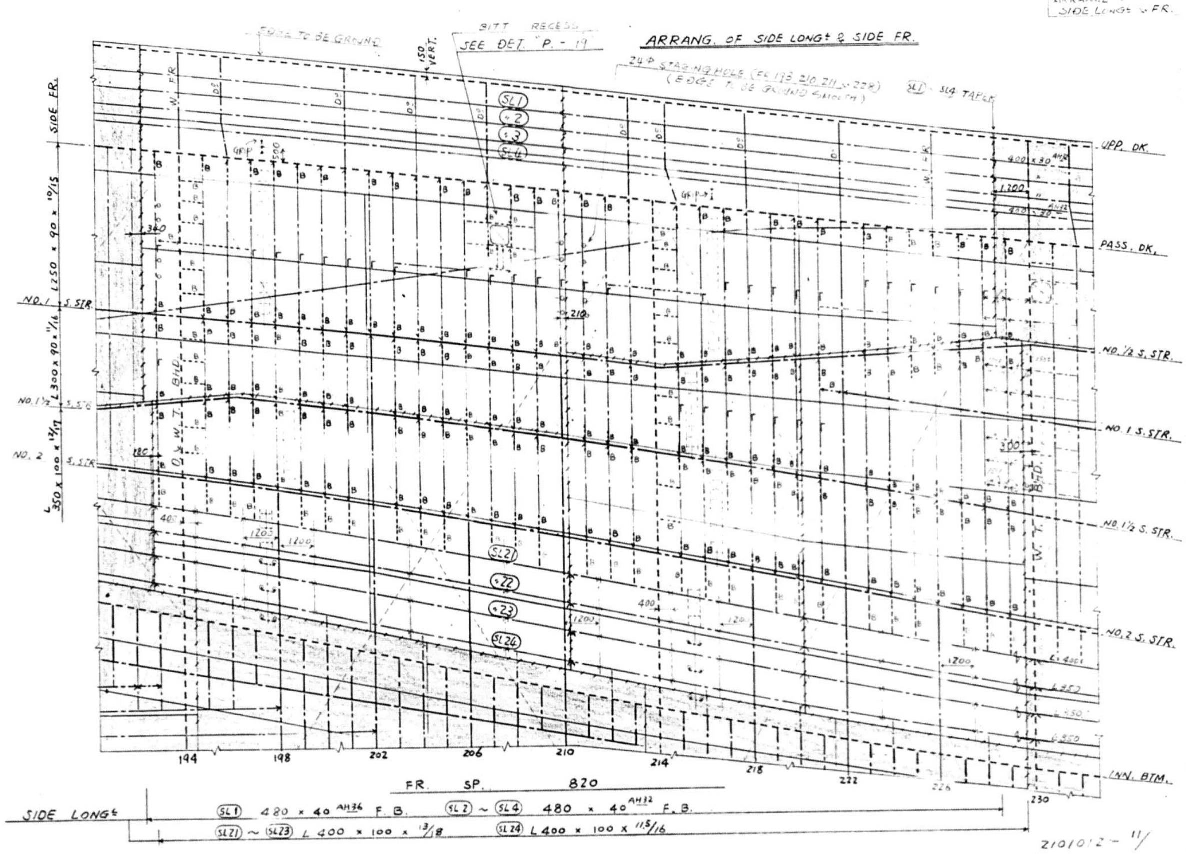
2101012 - 9/

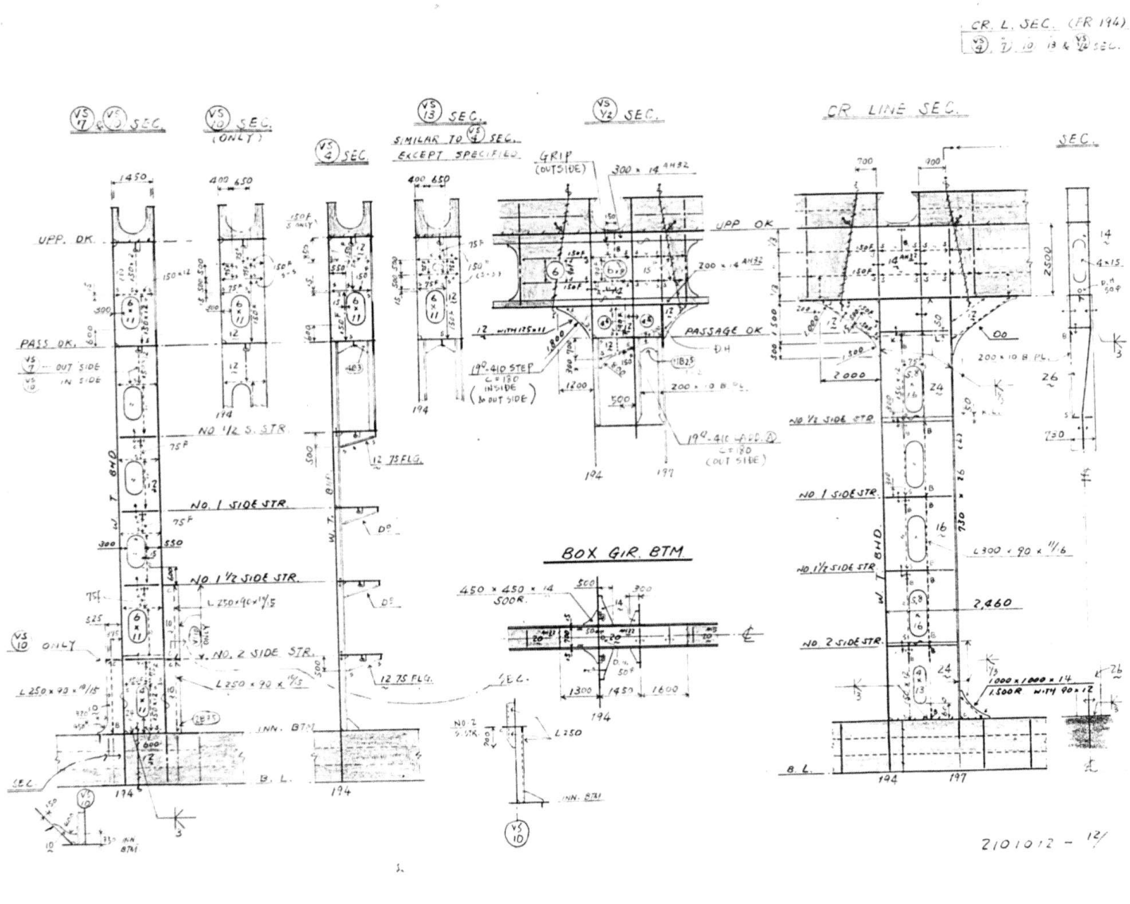
INCL. LONG⁴ BHD.

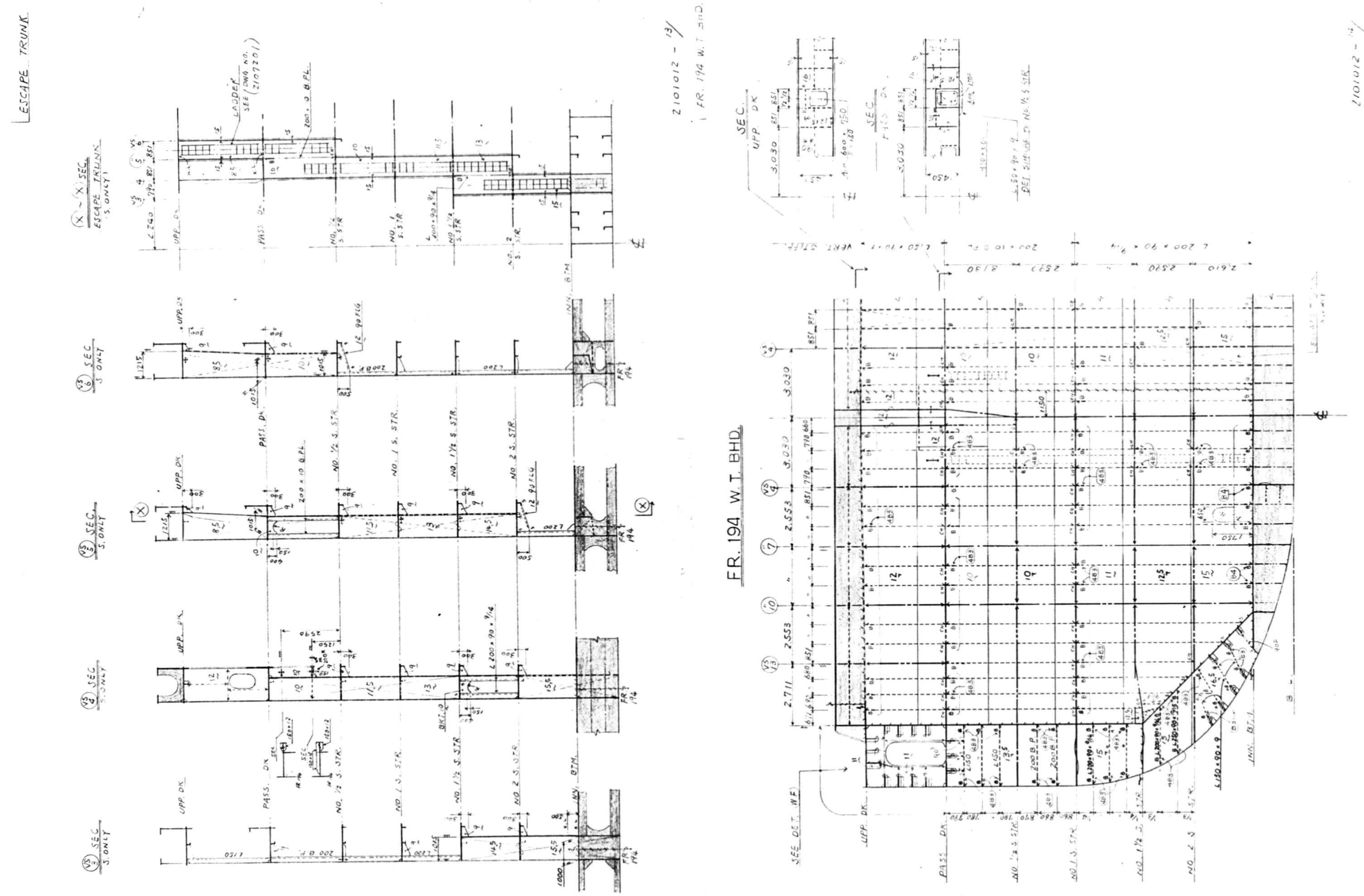
INCLINED LONG⁴ BHD.

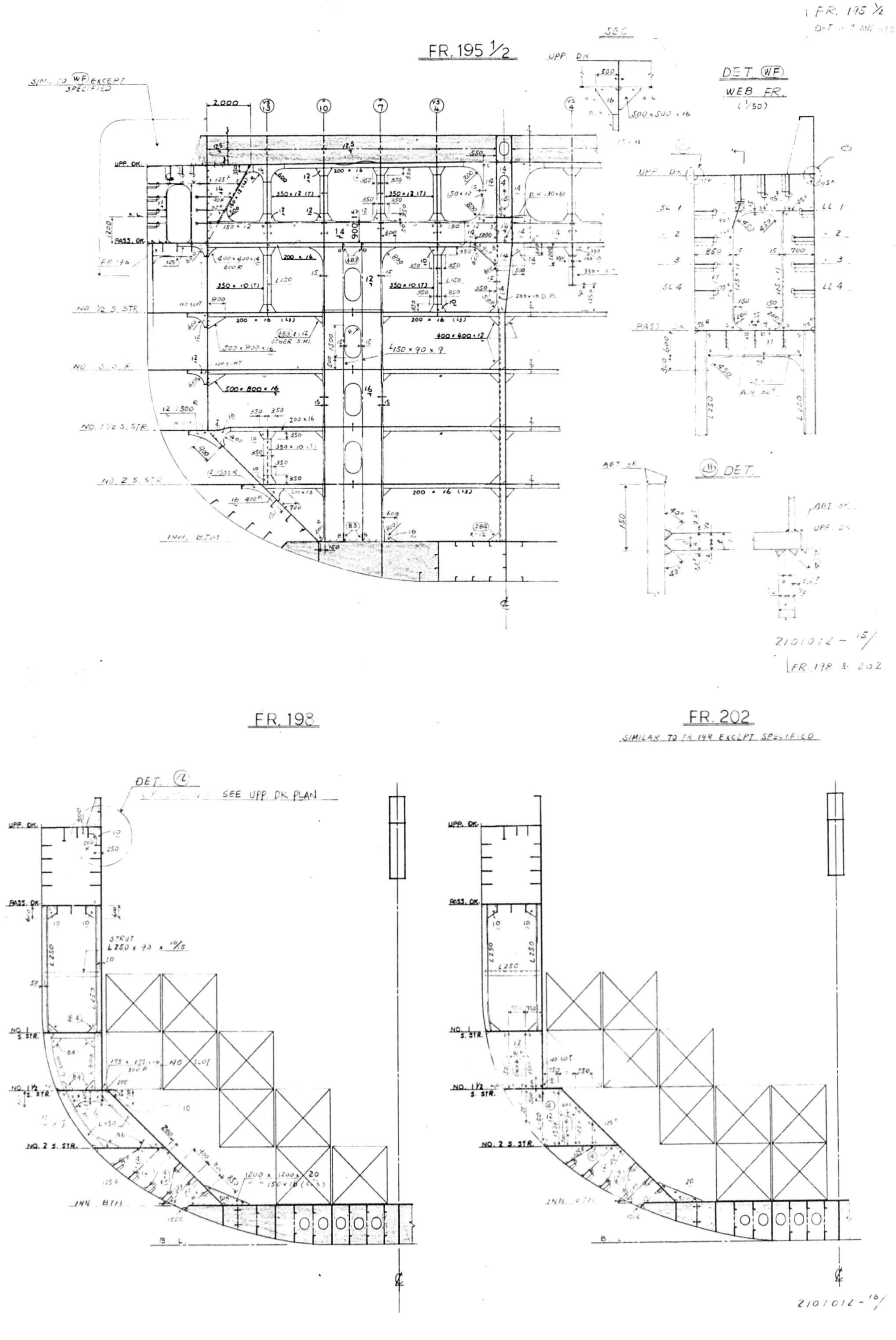


2101012 - 10/

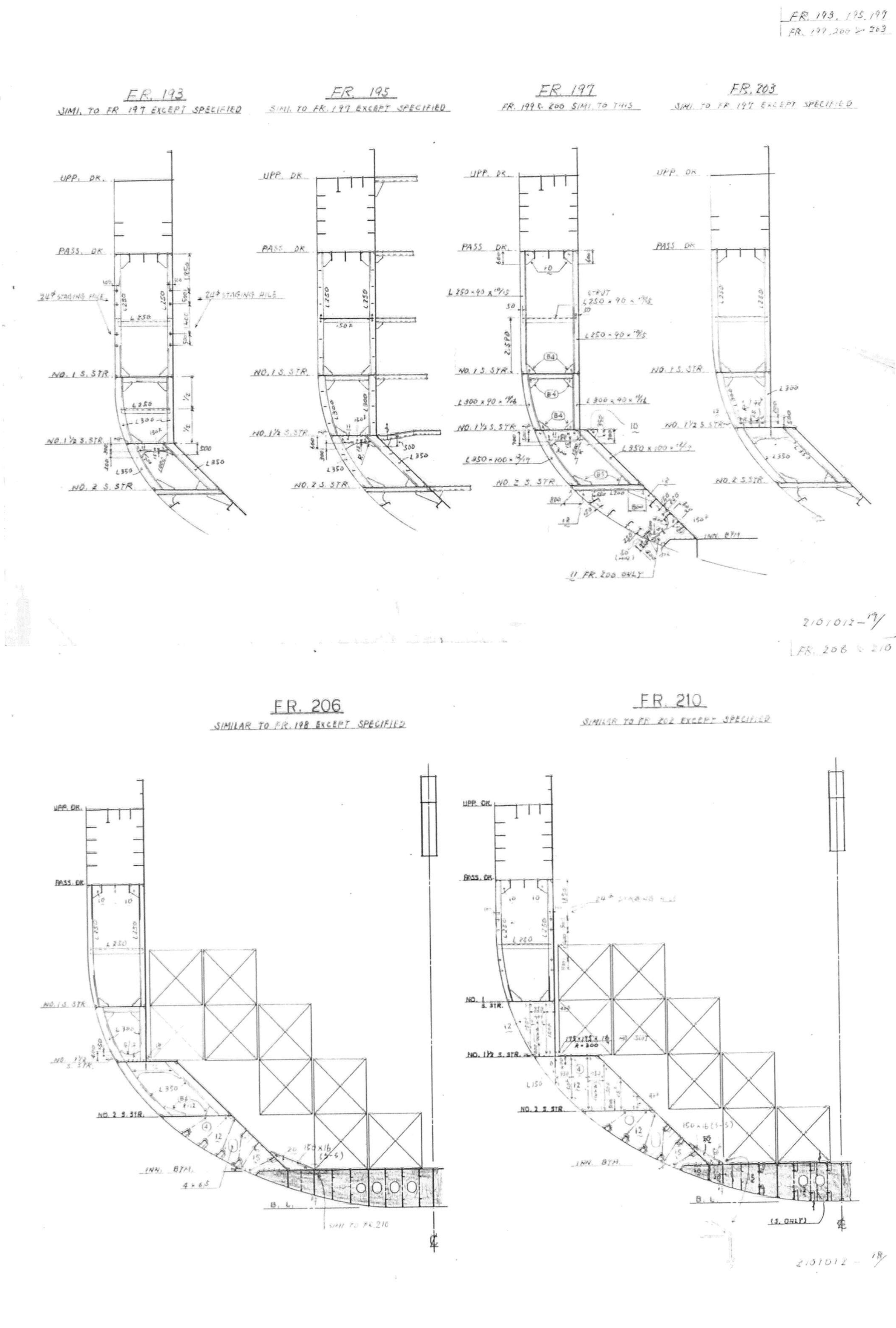

ARRANG. OF SIDE LONG'L & SIDE FR.
SEE DET. "P. - 1"
BITT RECESS
FORE TO BE GROUND
SIDE FR.
UPP. DK.
PASS. DK.
NO. 1 S. STR.
NO. 1½ S. STR.
NO. 2 S. STR.
NO. ½ S. STR.
INN. BTM.
FR. SP. 820
SIDE LONG'L
SL1 480 × 40 AH36 F.B.
SL2 ~ SL4 480 × 40 AH32 F.B.
SL21 ~ SL23 L 400 × 100 × 13/18
SL24 L 400 × 100 × 11.5/16
2101012 - 11/


CR. L. SEC. (FR 194)
CR. LINE SEC.
BOX GIR. BTM
UPP. DK.
PASS. DK.
NO. 1 SIDE STR.
NO. 1½ SIDE STR.
NO. 2 SIDE STR.
INN. BTM
B. L.
PASSAGE DK
GRIP (OUTSIDE)
SIMILAR TO SEC. EXCEPT SPECIFIED
2101012 - 12/

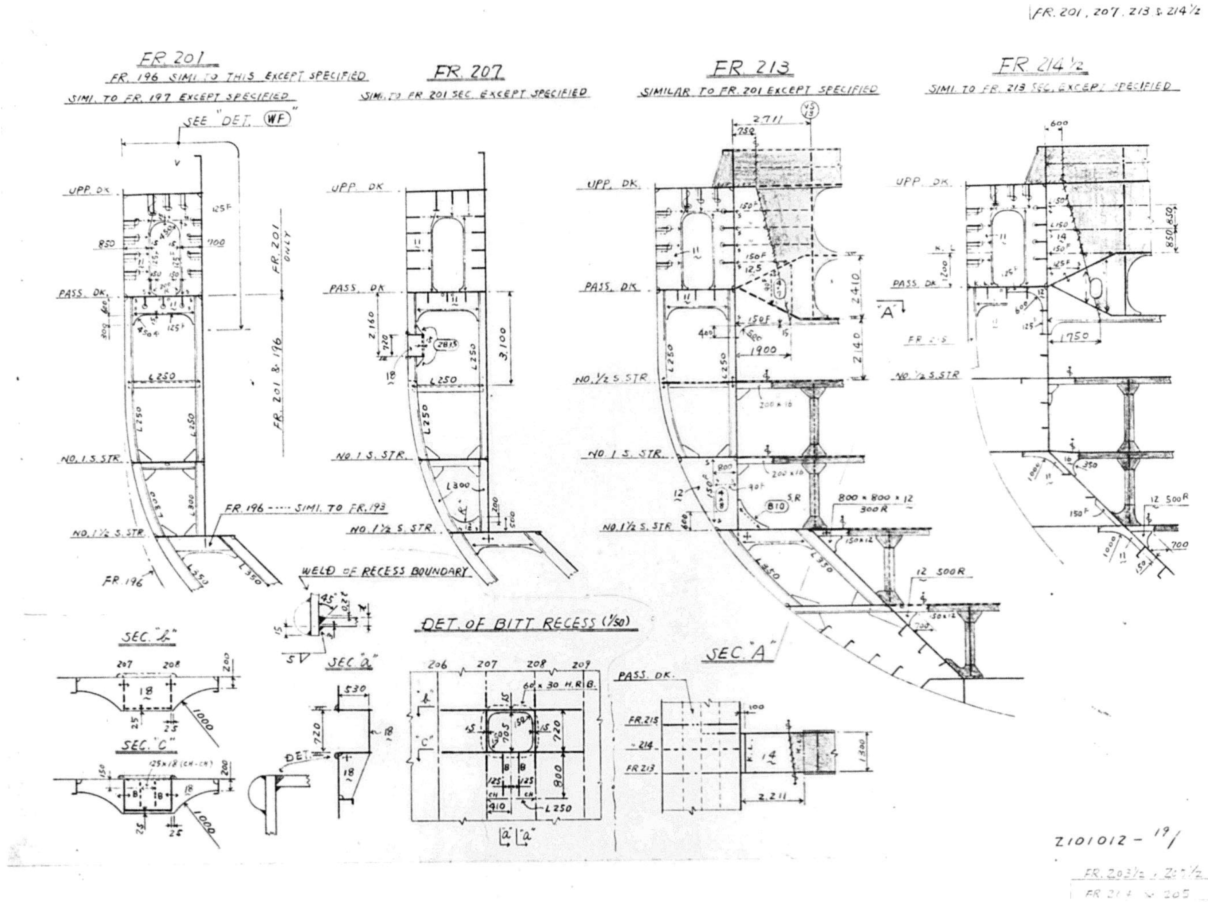

ESCAPE TRUNK
FR. 194 W.T. BHD.
2101012 - 13/
2101012 - 14/

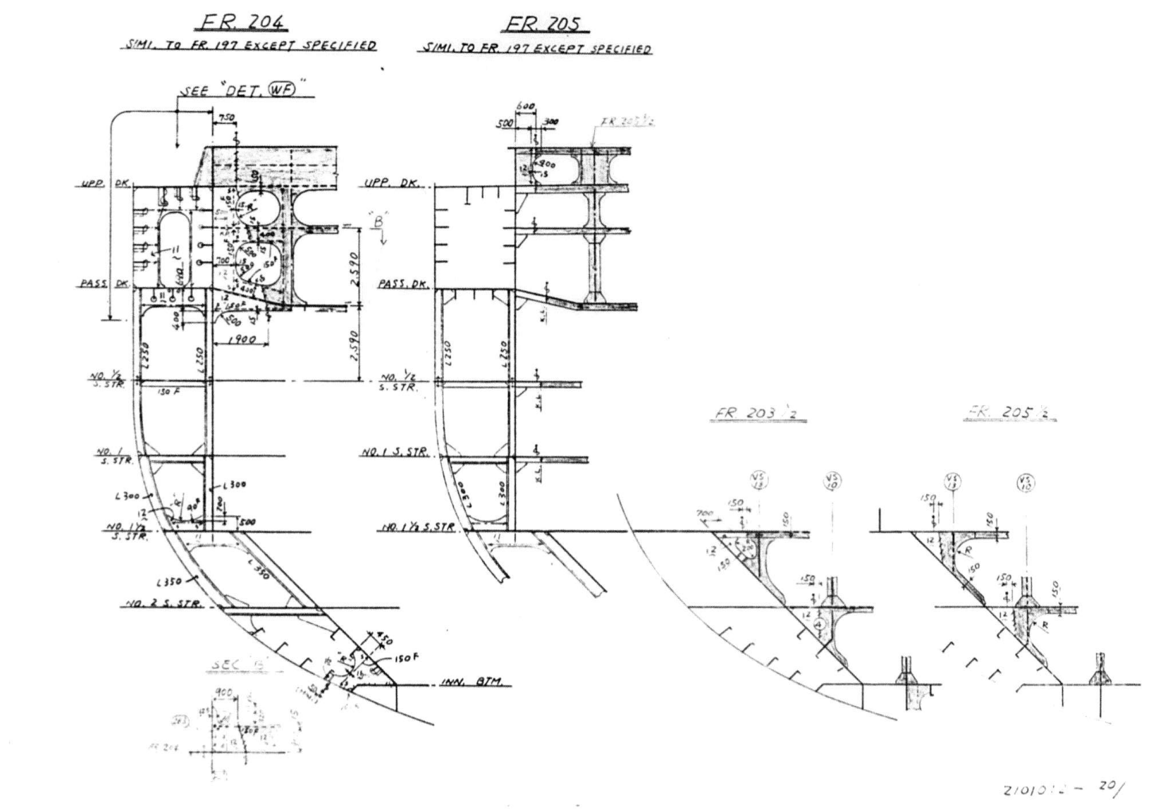


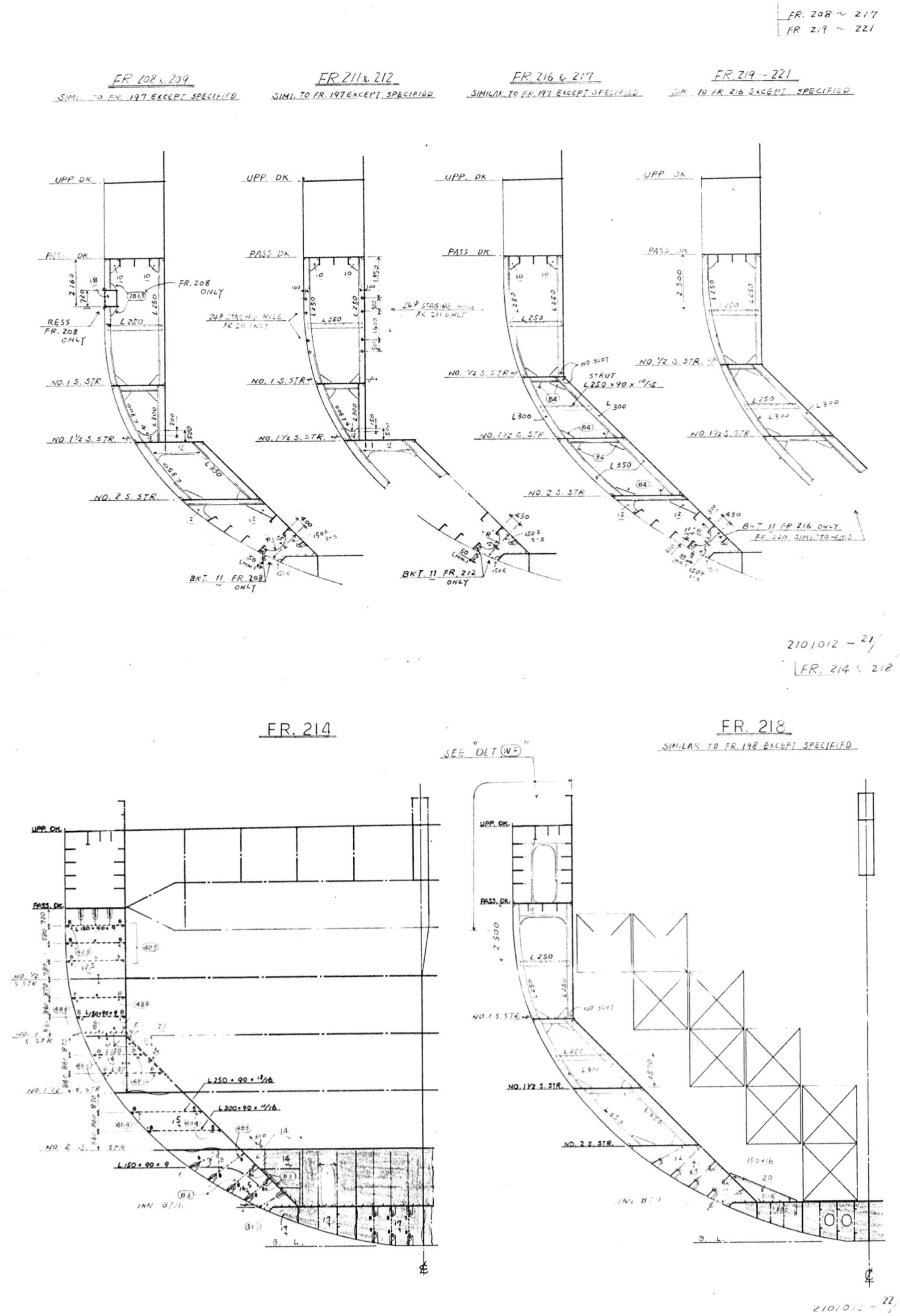
FR. 195 1/2
FR. 195 1/2
SIM. TO WF EXCEPT SPECIFIED
SEC
UPP. DK
DET. WF
WEB FR.
(1/50)
DET.
2101012 - 15/
FR 198 & 202
FR. 198
DET.
SEE UPP DK PLAN
STRUT L250 x 90 x 10/5
FR. 202
UPP. DK.
PASS. DK.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
INN. BTM
2101012 - 16/



FR. 193, 195, 197
FR. 199, 200 & 203
FR. 193
SIMI. TO FR. 197 EXCEPT SPECIFIED
FR. 195
SIMI. TO FR. 197 EXCEPT SPECIFIED
FR. 197
FR. 199 & 200 SIMI. TO THIS
FR. 203
SIMI. TO FR. 197 EXCEPT SPECIFIED
UPP. DK.
PASS. DK.
NO. 1 S. STR.
NO. 1½ S. STR.
NO. 2 S. STR.
INN. BTM.
11 FR. 200 ONLY
2101012-17
FR. 206 & 210
FR. 206
SIMILAR TO FR. 198 EXCEPT SPECIFIED
FR. 210
SIMILAR TO FR. 202 EXCEPT SPECIFIED
B. L.
SIMI. TO FR. 210
(S. ONLY)
2101012-18

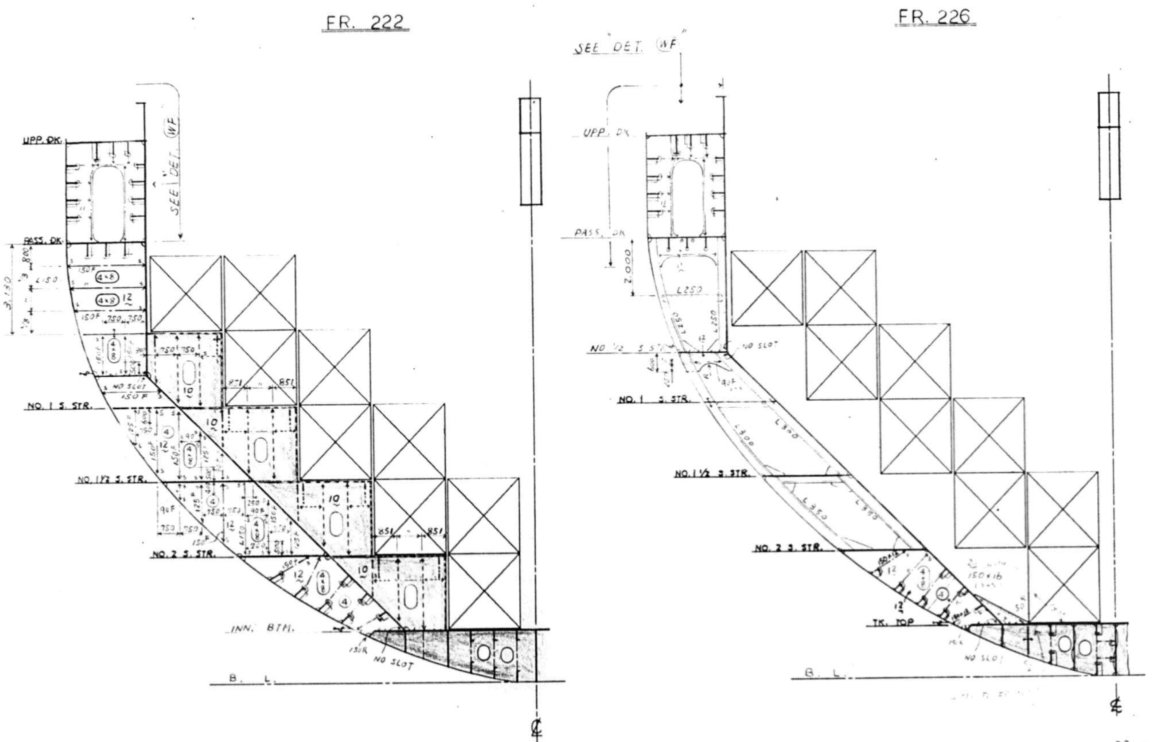

FR. 201, 207, 213 & 214½
FR. 201
FR. 196 SIMI. TO THIS EXCEPT SPECIFIED
SIMI. TO FR. 197 EXCEPT SPECIFIED
SEE "DET. (WF)"
FR. 207
SIMI. TO FR 201 SEC. EXCEPT SPECIFIED
FR. 213
SIMILAR TO FR. 201 EXCEPT SPECIFIED
FR. 214½
SIMI. TO FR. 213 SEC. EXCEPT SPECIFIED
UPP. DK.
PASS. DK.
NO. ½ S. STR.
NO. 1 S. STR.
NO. 1½ S. STR.
FR. 196 ---- SIMI. TO FR. 193
WELD OF RECESS BOUNDARY
DET. OF BITT RECESS (1/50)
SEC. "A"
SEC. "C"
SEC. "a"
SEC. "b"
Z101012 - 19/


FR. 204
SIMI. TO FR. 197 EXCEPT SPECIFIED
SEE "DET. (WF)"
FR. 205
SIMI. TO FR. 197 EXCEPT SPECIFIED
UPP. DK.
PASS. DK.
NO. ½ S. STR.
NO. 1 S. STR.
NO. 1½ S. STR.
NO. 2 S. STR.
INN. BTM.
FR. 203½
FR. 205½
Z101012 - 20/



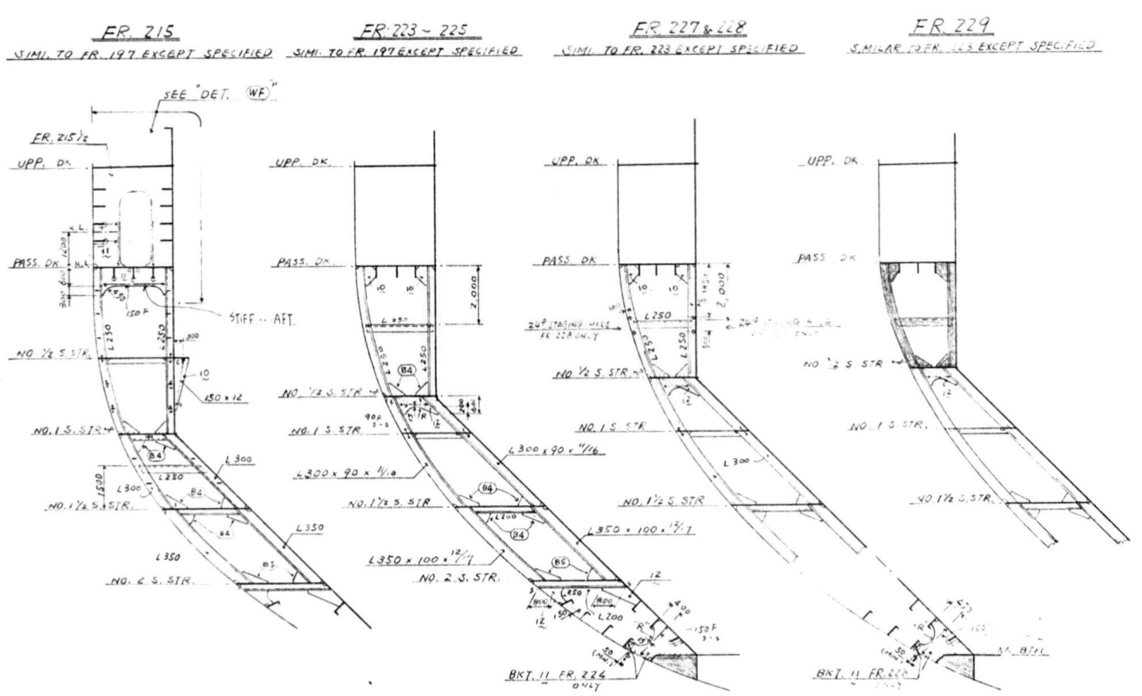
FR. 208 ~ 217
FR. 219 ~ 221
FR 208 & 209
SIMI. TO FR. 197 EXCEPT SPECIFIED
FR 211 & 212
SIMI. TO FR. 197 EXCEPT SPECIFIED
FR 216 & 217
SIMILAR TO FR. 197 EXCEPT SPECIFIED
FR 219 ~ 221
SIM. TO FR. 216 EXCEPT SPECIFIED
UPP. DK
PASS. DK
NO. 1 S. STR.
NO. 1½ S. STR.
NO. 2 S. STR.
NO. ½ S. STR.
FR. 208 ONLY
RESS FR. 208 ONLY
24φ STAGING HOLE FR. 211 ONLY
NO SLOT
STRUT L250 x 90 x 10/15
BKT. 11 FR. 208 ONLY
BKT. 11 FR. 212 ONLY
BKT. 11 FR. 216 ONLY
FR. 220 SIMI. TO THIS
2101012 - 21/
FR. 214 & 218
FR. 214
FR. 218
SIMILAR TO FR. 198 EXCEPT SPECIFIED
SEE "DET (WF)"
L250 x 90 x 13/16
L300 x 90 x 11/16
L150 x 90 x 9
INN. BTM.
B. L.
2101012 - 22/

FR. 222 & 226

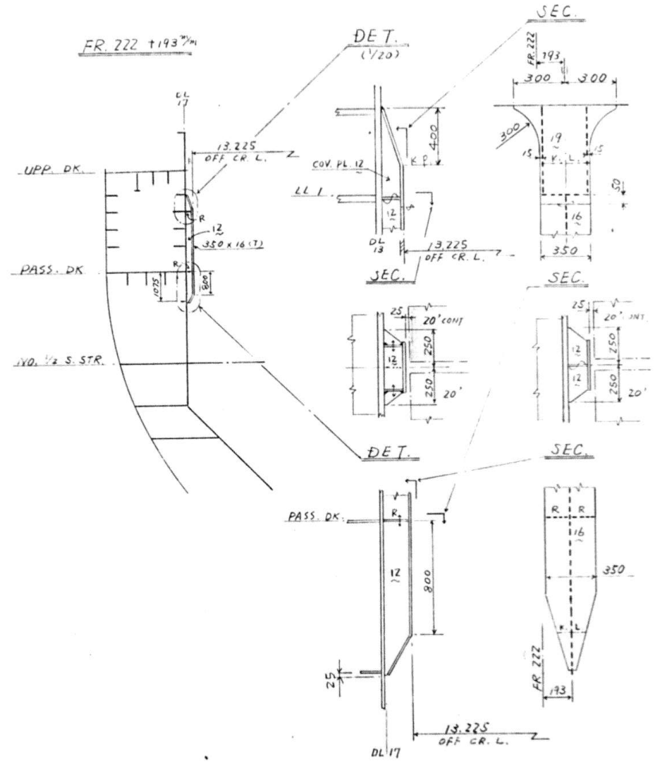


Z101012 - 23

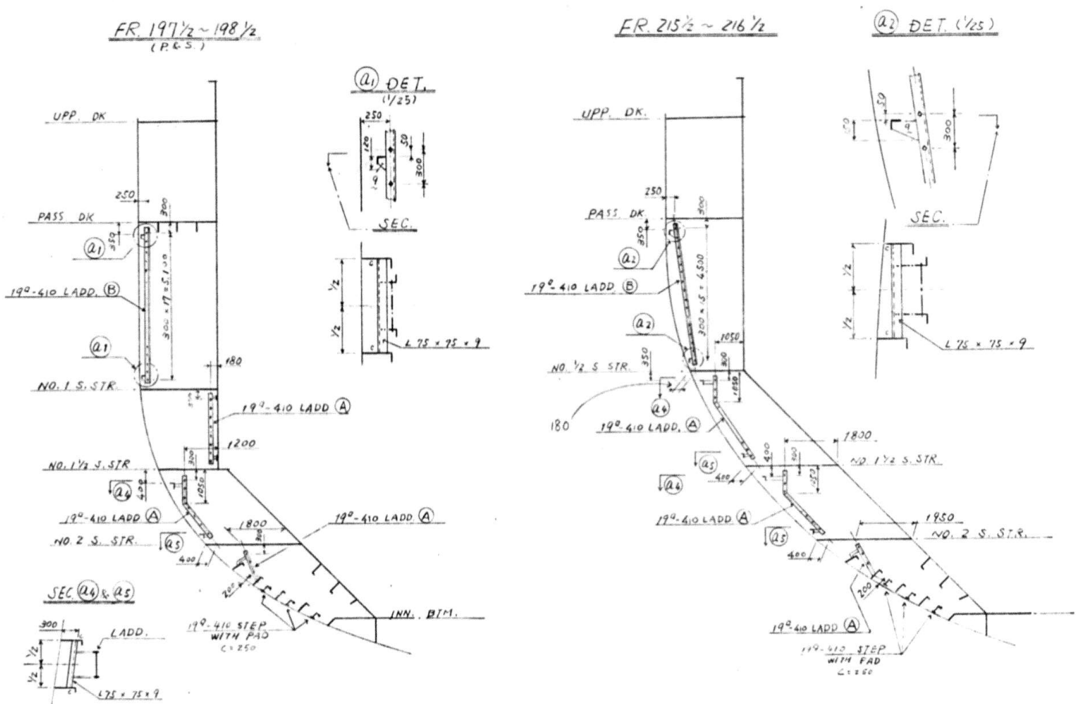
FR. 215,
FR. 223 ~ 229



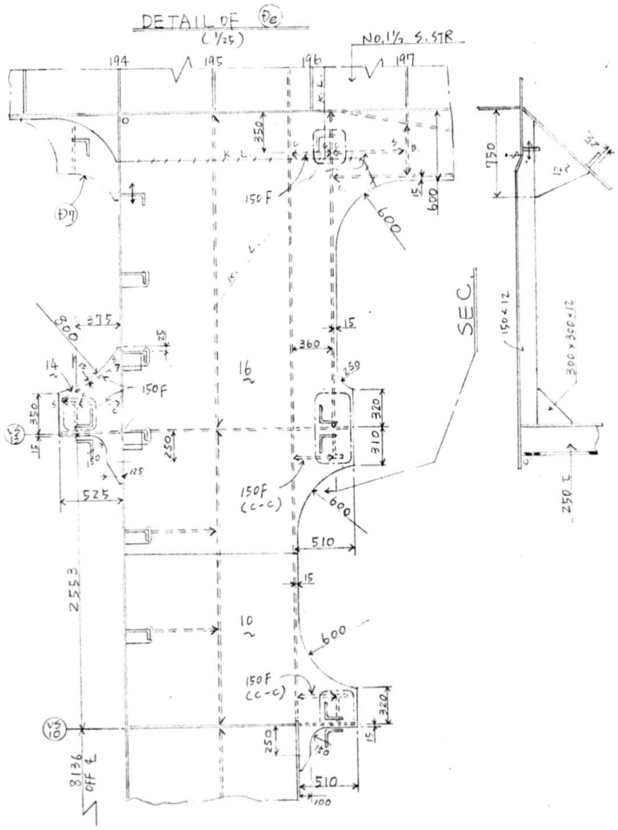
Z101012 - 24

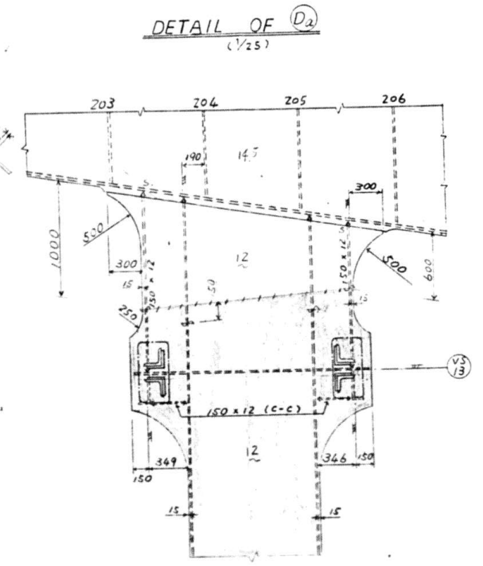


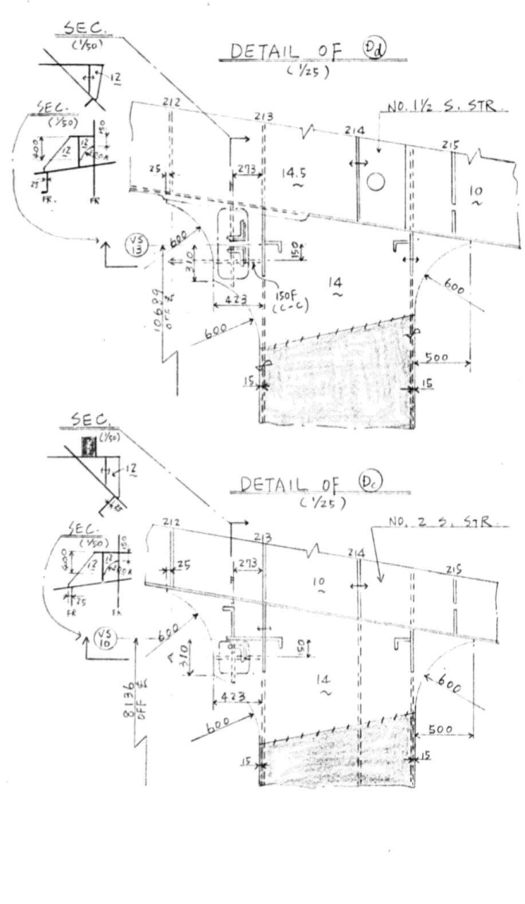
2101012 - 25

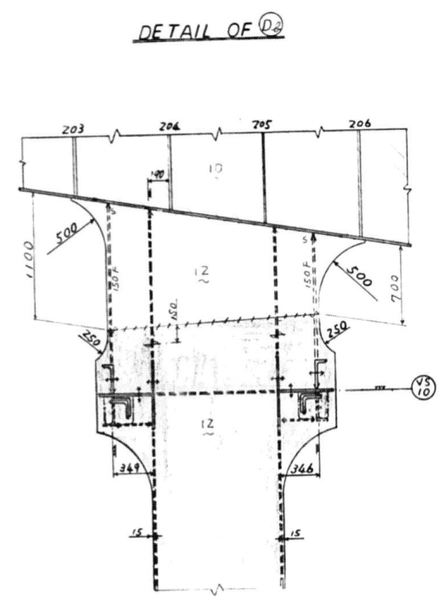


2101012 - 26

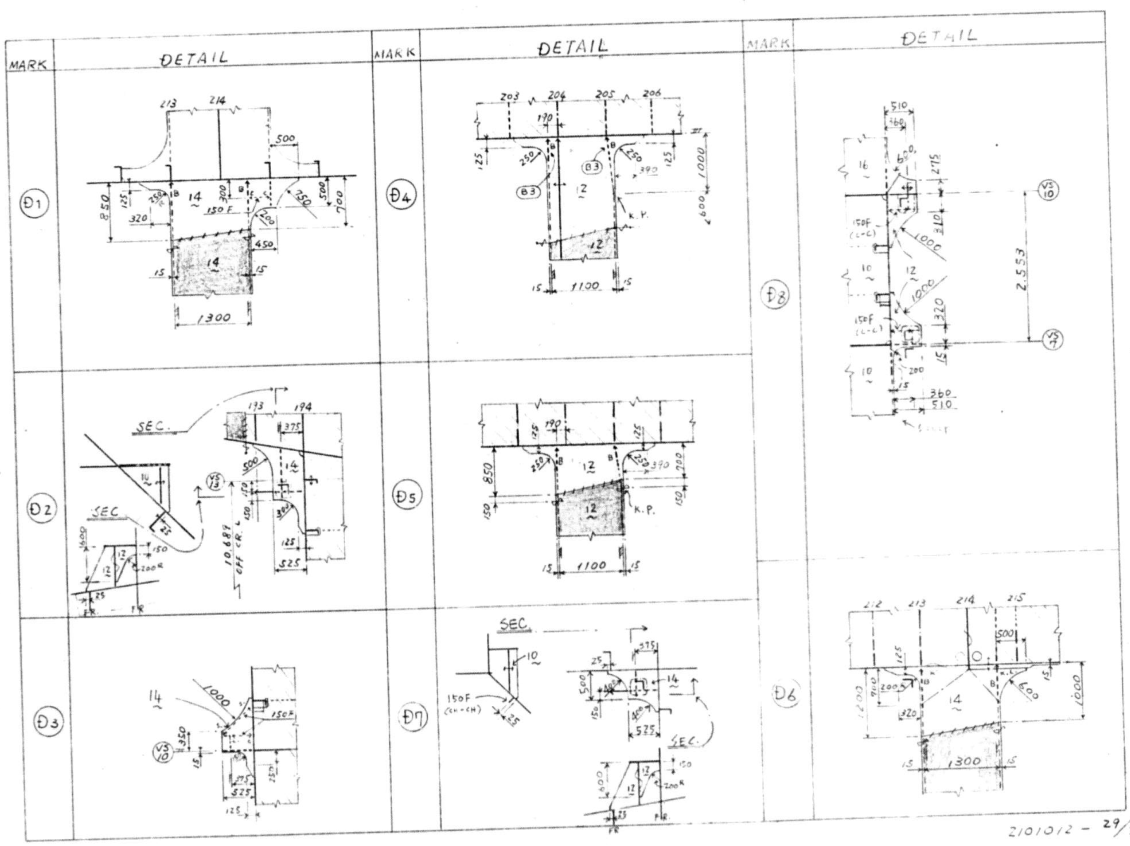

DETAIL OF De
(1/25)
NO.1½ S.STR.
SEC.
150×12
300×300×12
250 L


DETAIL OF Da
(1/25)
150×12 (c-c)


DETAIL OF Dd
(1/25)
NO. 1½ S. STR.
SEC.
(1/50)
DETAIL OF Dc
(1/25)
NO. 2 S. STR.


DETAIL OF Db

205



2101012 - 29/29

206

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.	—	FOLLOWED MES ORIGINAL PLAN	MAR. 25 '85	
-10	A	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. SHIFTED BLOCK BUTT JOINTS ON UPP DECK, LONGL BHD, SIDE SHELL, PASSAGE DECK, SIDE STRINGER, CENTER LINE LONGL BOX GIRDER AND CONTAINER SUPPORT CONSTRUCTION. 2. DELETED TEMP. ACCESS HOLES ON UPP DECK. 3. RELOCATED W.T. MAN HOLES, VERT. LADDERS AND GRIPS IN RELATION TO ITEM 1. 4. REARRANGED AIR HOLES OF LONGL ON PASSAGE DECK. 5. REARRANGED STAGING HOLES ON ORD. FRAME. 6. MODIFIED SHAPE OF SLOTS ON WEB IN PASSAGE WAY FROM AM (WITH COLLAR PL TYPE AM) TO TYPE BM. (REFER TO MIDSHIP SECTION) 7. PENETRATED NO. 1/2 SIDE STR. PLATES AT FR. 194 AND FR. 214 BHD, RESPECTIVELY. AND ADDED DRAIN HOLES. 8. MODIFIED SHAPE OF CORNER SLOTS OF ORD. FR ON NO. 1 1/2 SIDE STR 9. REARRANGED KNUCKLE LINE ON NO. 1 1/2 SIDE STR. FOR ALIGNED CONTAINER [illegible] 10. PROVIDED GRIP ON EACH LADDER BASED DWG : ~ MES DWG NO. 2101012-A (1ST REVISED PLAN)	JUN. 18. '85	J. H.
-11		FOLLOWED MES PARTLY REVISED PLAN NO. A1	JUL. 31. '85	H. Ko

A4 5, A3 27, SUM 32 — 32 SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION	
	APPROVED J. Hirayama / H. Kokawa	CLASS ABS
	CHECKED S. Furuhashi	貨物倉構造 (オ2倉) CARGO HOLD CONSTRUCTION (NO. 2 HOLD)
	DRAWN	
	SCALE 1/100	
	ORDER 01-15800 ~~01-15900~~ ~~01-16400~~	ITEM — DRAWING NO. HS-11420-F — LYKES REF. NO. 110603

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

PLAN RECORD BY MHI (CONTINUE)

ALT. NO.	MARK	DISCRIPTION	DATE	BY
-12		FOLLOWED MES PARTLY REVISED PLAN NO. A2	AUG. 12. '85	H. Ko
-13		Do. NO. A3	SEP. 6. '85	H. Ko
-14	B	1. ADDED COLLAR PLATES ON NO. 1/2, 1 1/2, 2 HORIZ. GIRDERS AND VS 4 (S. SIDE) VERT. WEB. 2. REARRANGED PANEL STIFFENERS ON VS 4, 7, 10 & 13 VERTICAL WEB. 3. SHIFTED BUTT JOINTS OF FACE PLATES ON VS 4 & 13 VERT. WEB.	SEP. 17. '85	H. Ko
-15	C	ADDED TEMP. CABLE HOLE ON FR. 194 BHD	JUN. 17. '86	H. Ko
-16	D	ADDED TEMP. HOLES ON UPP DK AT FR. 228 AND ON LONGL BHD ON FR. 197α & 216α.	JUL. 1. '86	H. Ko
-F	—	PREPARED AS FINISHED PLAN FOR S. No. 1158	MAR. 11 '87	H. Ko

HS-11420

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	1 MAY '85	OFTS/MES-373						

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SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
NO. ~~1323~~	~~DOCTOR LYKES~~	NO. 1158	JAMES LYKES
NO. ~~1324~~	~~ALMERIA LYKES~~	NO. ~~1159~~	~~JOSEPH LYKES~~
NO. 1325	~~TILLIE LYKES~~	NO. ~~1164~~	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER — SHIP'S NO. — SHIP'S NAME

STRUCTURE DESIGN SEC.
N. Yamamoto
ASSIST. CHIEF Y. Hayashi
STAFF T.E. H.Y.

貨物倉構造 (オ2倉)
CARGO HOLD CONSTRUCTION
(NO. 2 HOLD)

JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 110603 — MES DRAWING NO. 2101012-A3

(3 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARD FOR APPROVAL OF OWR & ABS.	MAR. 22 '85
A	A-1	OWR'S REQ. TLX. NO OFTS/MES-319 DATED APR. 19 '85	APR. 27 '85
	A-2	REVISED ACCORDING TO DISCUSSION WITH ABS	
	A-3	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	T. O
	A-4	OWR'S REQ. LETTER NO. OFTS/MES-373 DATED 1ST MAY, 1985	
A1	A1-1	REVISED ACCORDING TO OWR'S COMMENT BY SUPERINTENDENT IN TAMANO.	JUL. 12 '85
	A1-2	MISCELLANGOUS REVISION (DESIGN DEVELOPMENT)	J. M
A2	A2-1	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	JUL. 26 '85
	A2-2	REVISED ACCORDING TO OWR'S REQ (DATED 26TH APR. '85 LTR. NO. OFTS/MES 1373)	M. Y
A3	A3-1	REVISED ACCORDING TO OWR'S COMMENT BY SUPERINTENDENT IN TAMANO.	AUG. 28 '85 H. Y.

DWG. NO. 2101012-A1

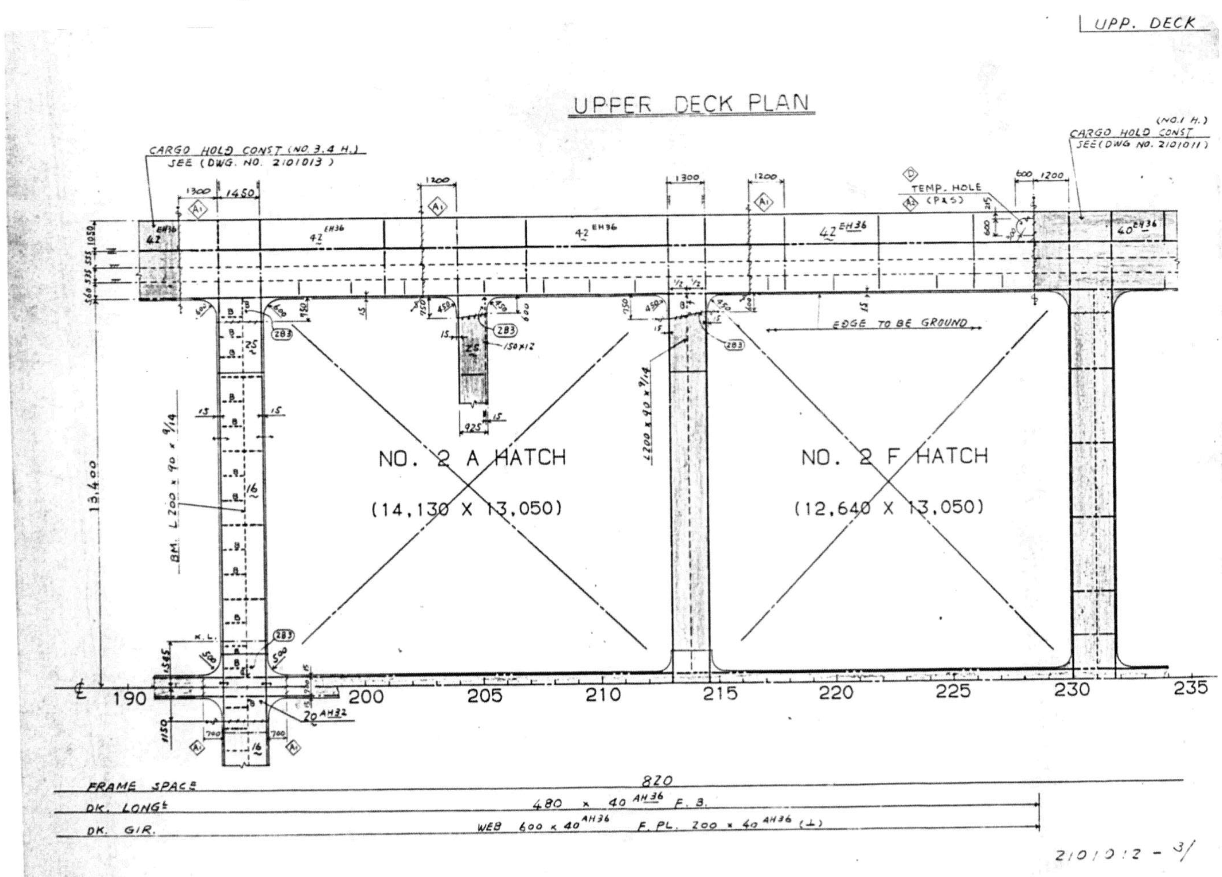
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備 考:-

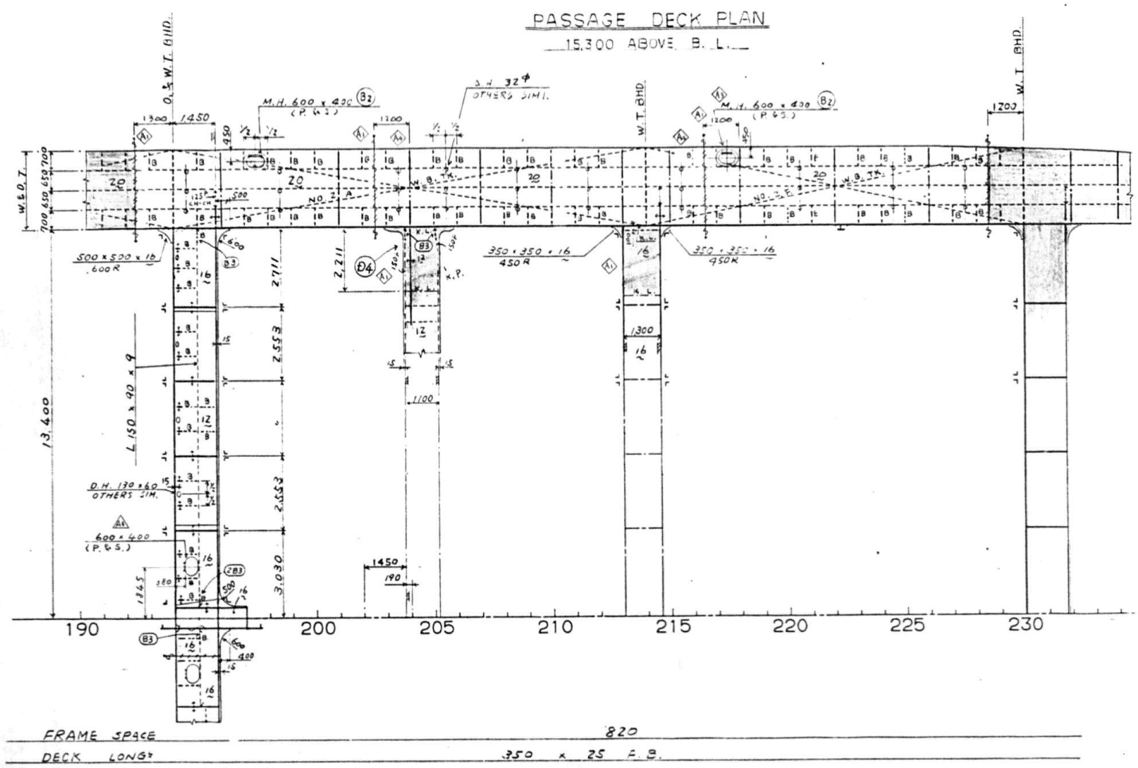
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番 2100811）」を参照のこと。
4. 溶接脚長については，特記の他は「溶接脚長表（図番 2100832）」を参照のこと。

2.1.0.1.0.1.2.- 2/



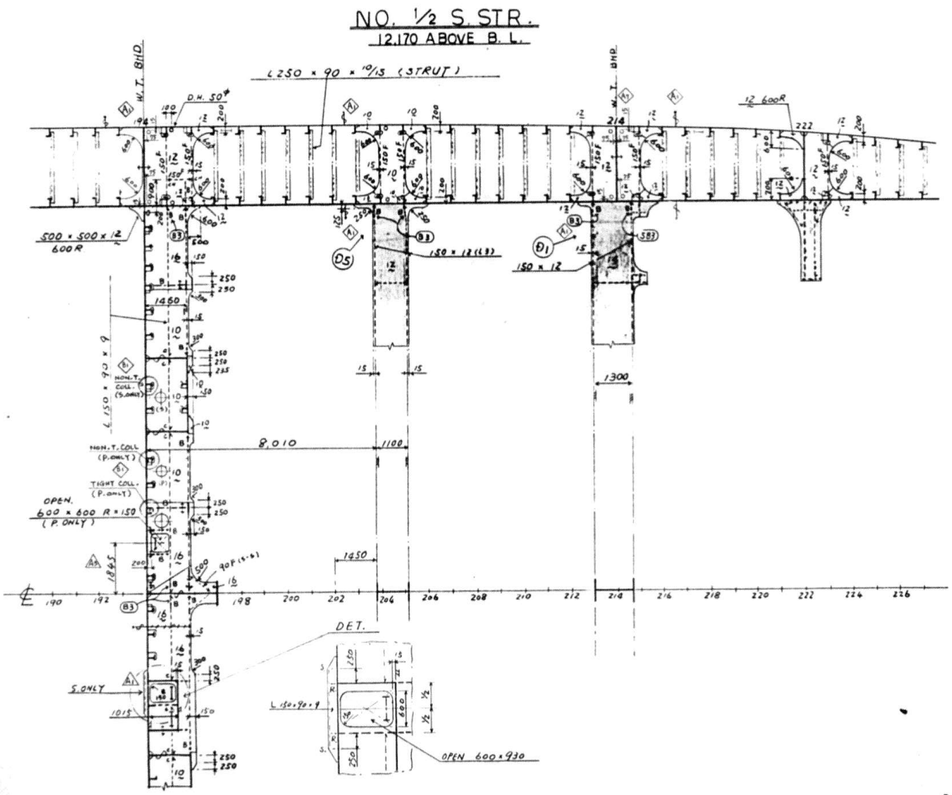
2101012 - 3/

PASS. DECK

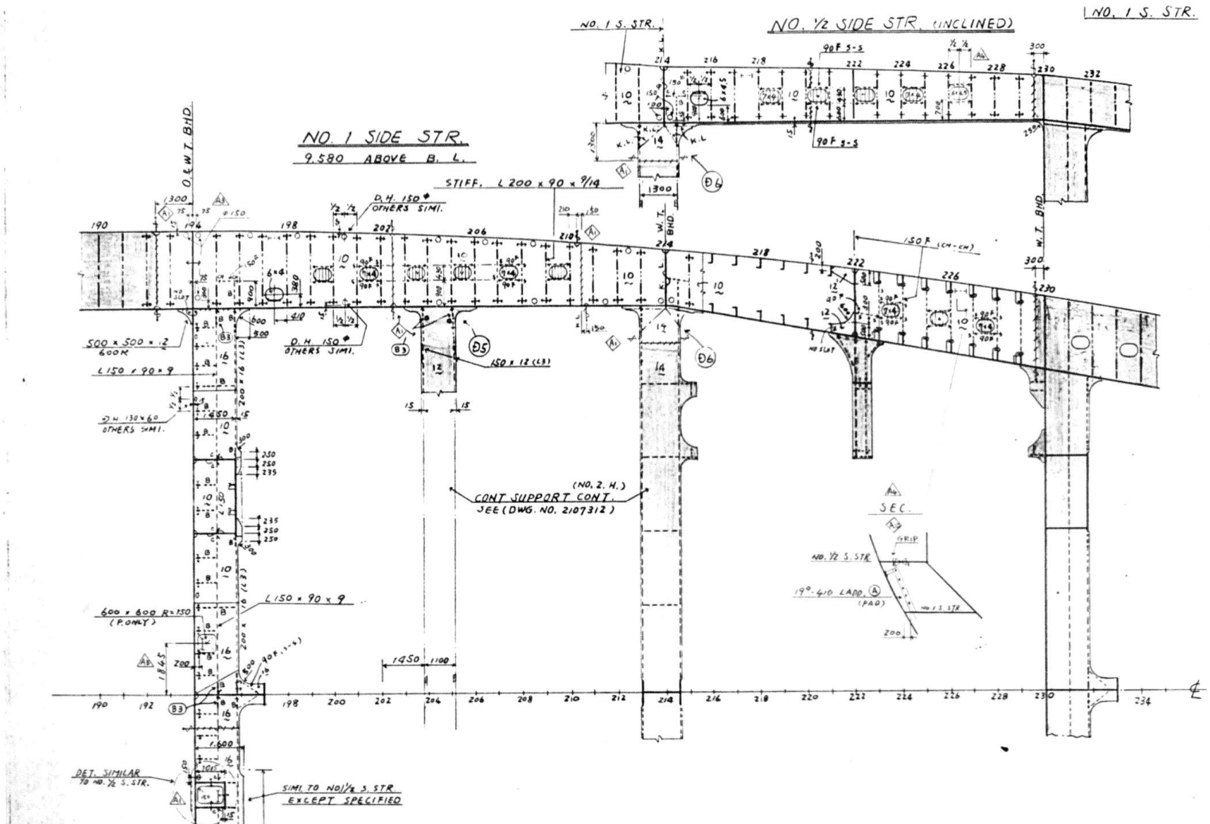


210'012 − 4/

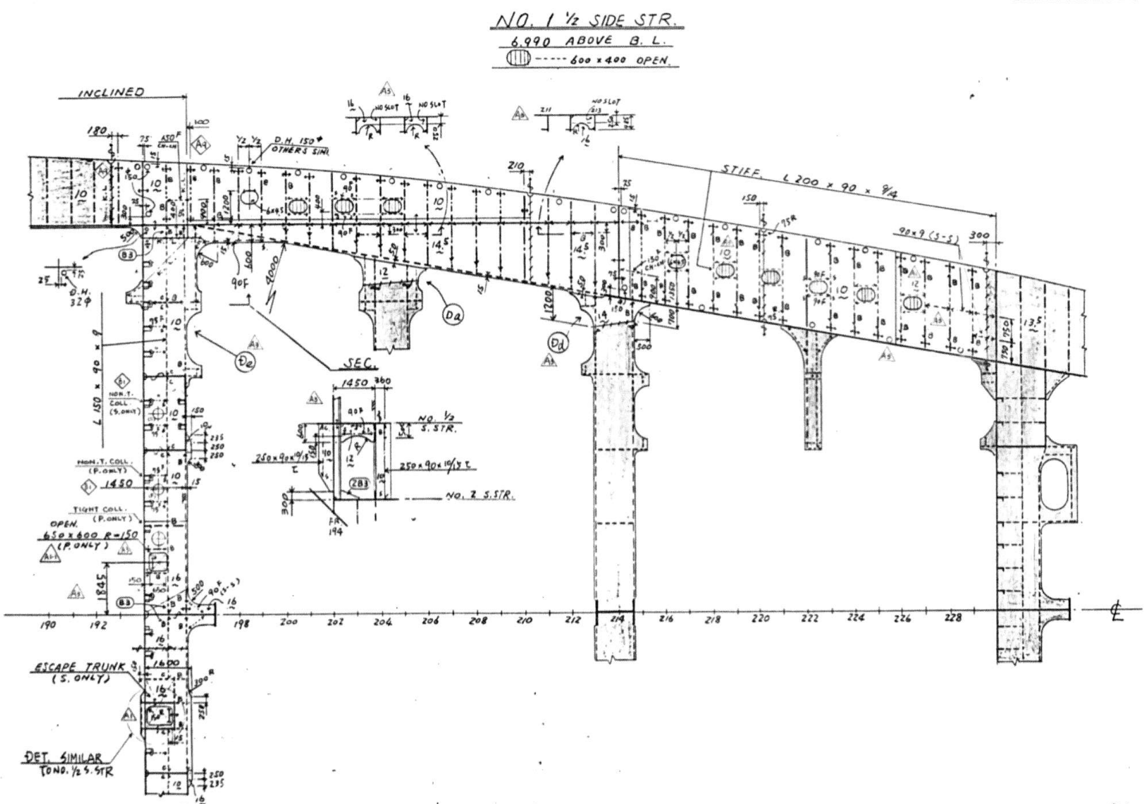
NO. ½ S. STR.



210'012 − 5/

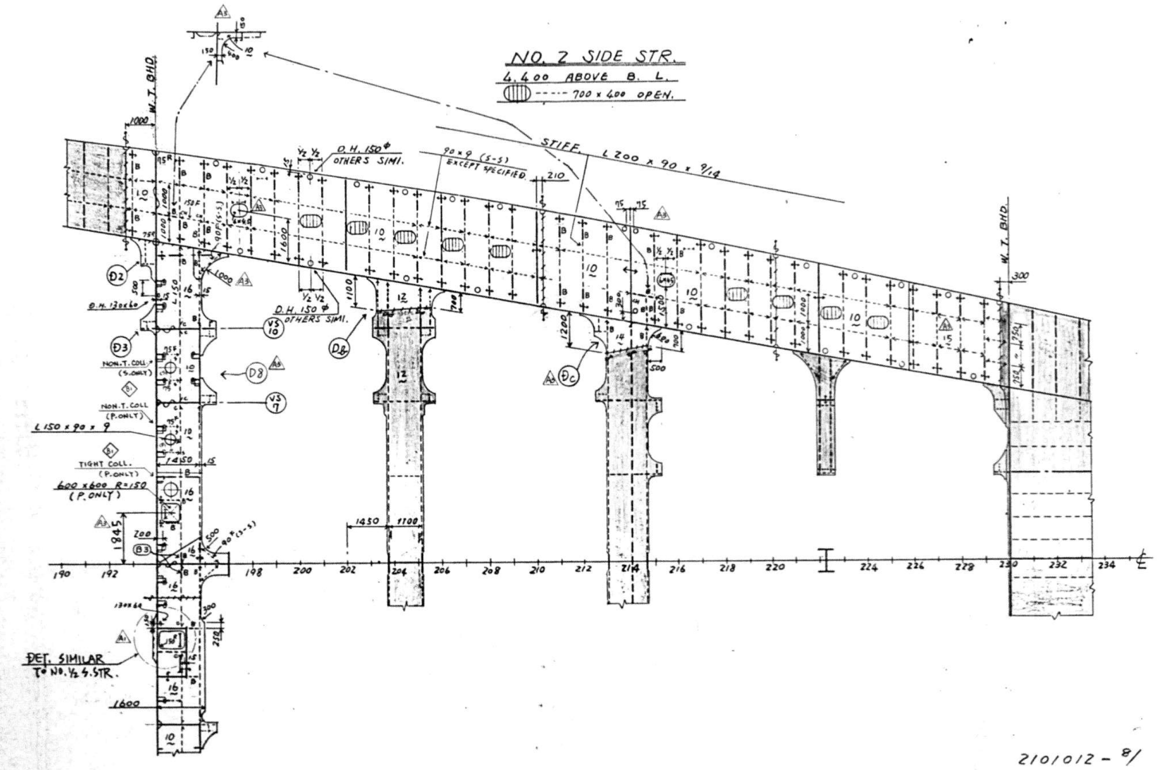


2101012 - 6/



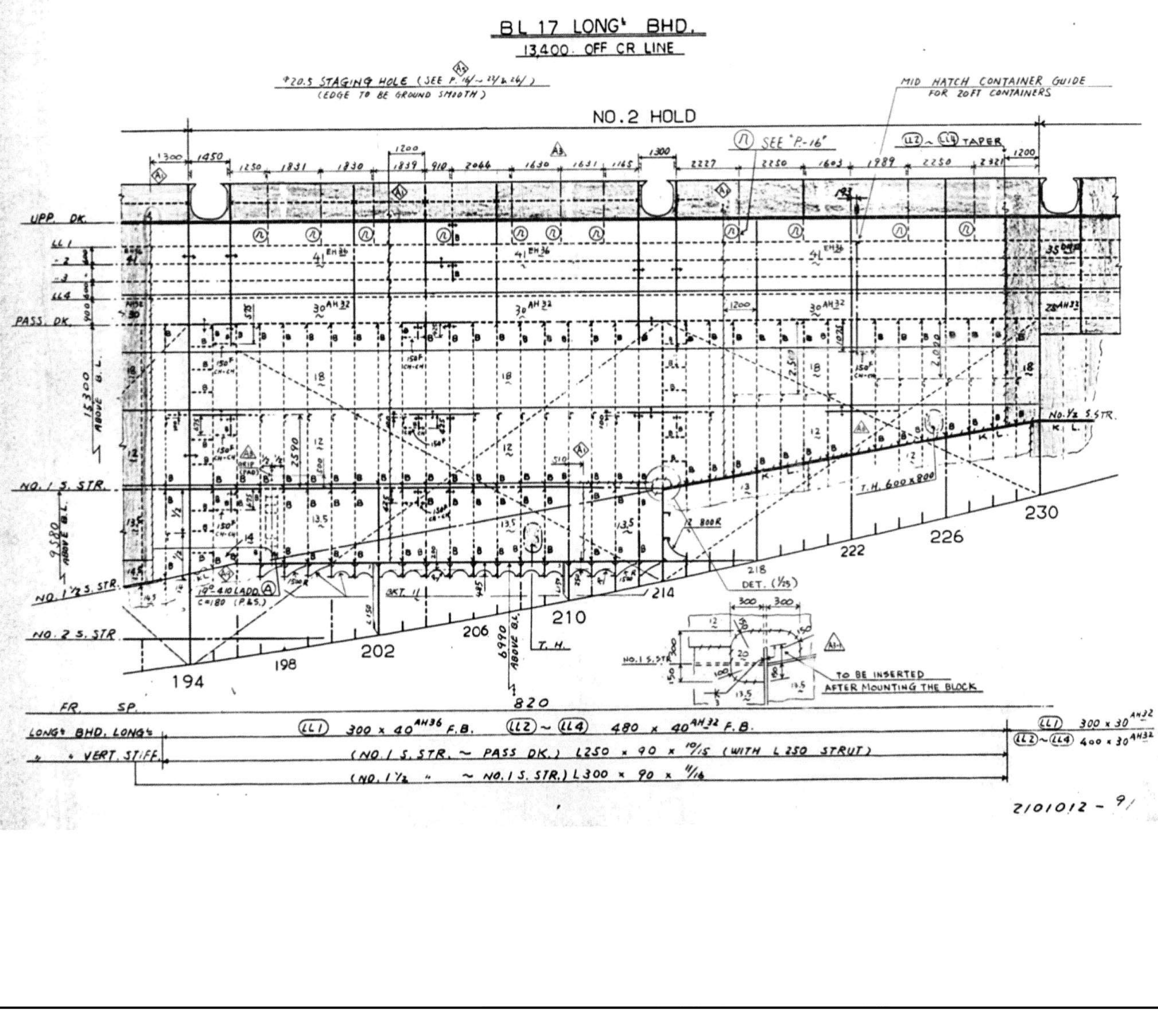
2101012 - 7/

NO. 2 S. STR



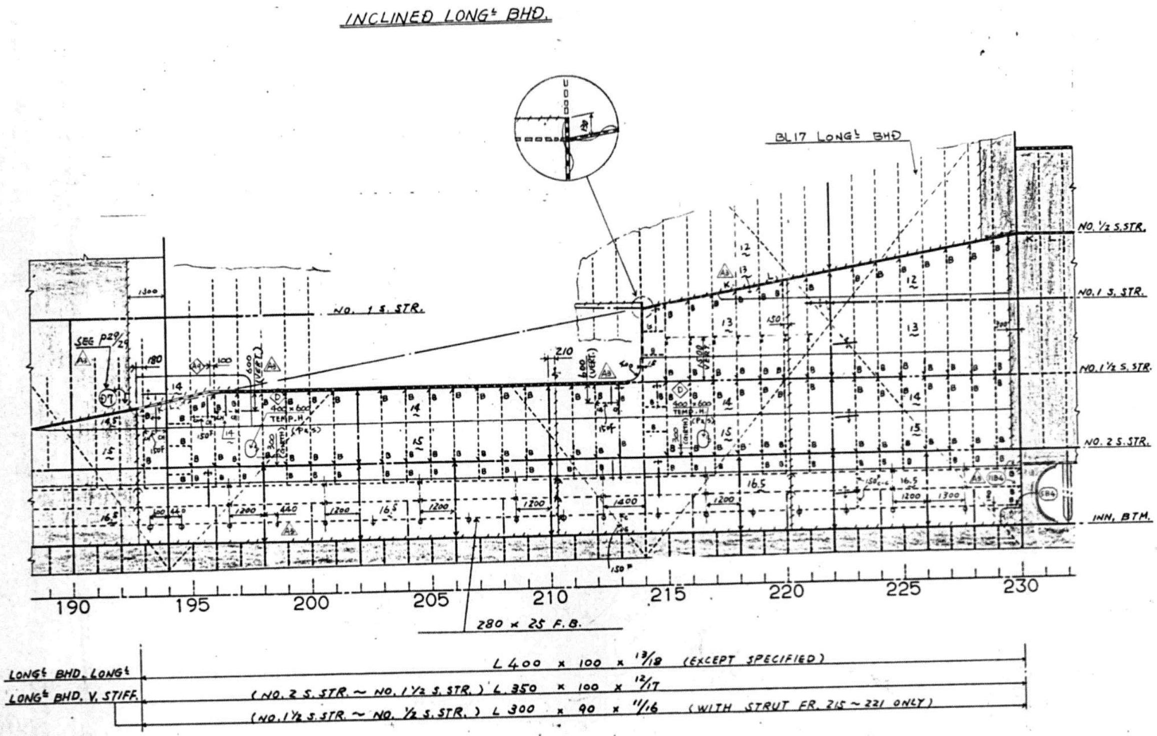
2101012 - 8/

BL 17 LONG' BHD.



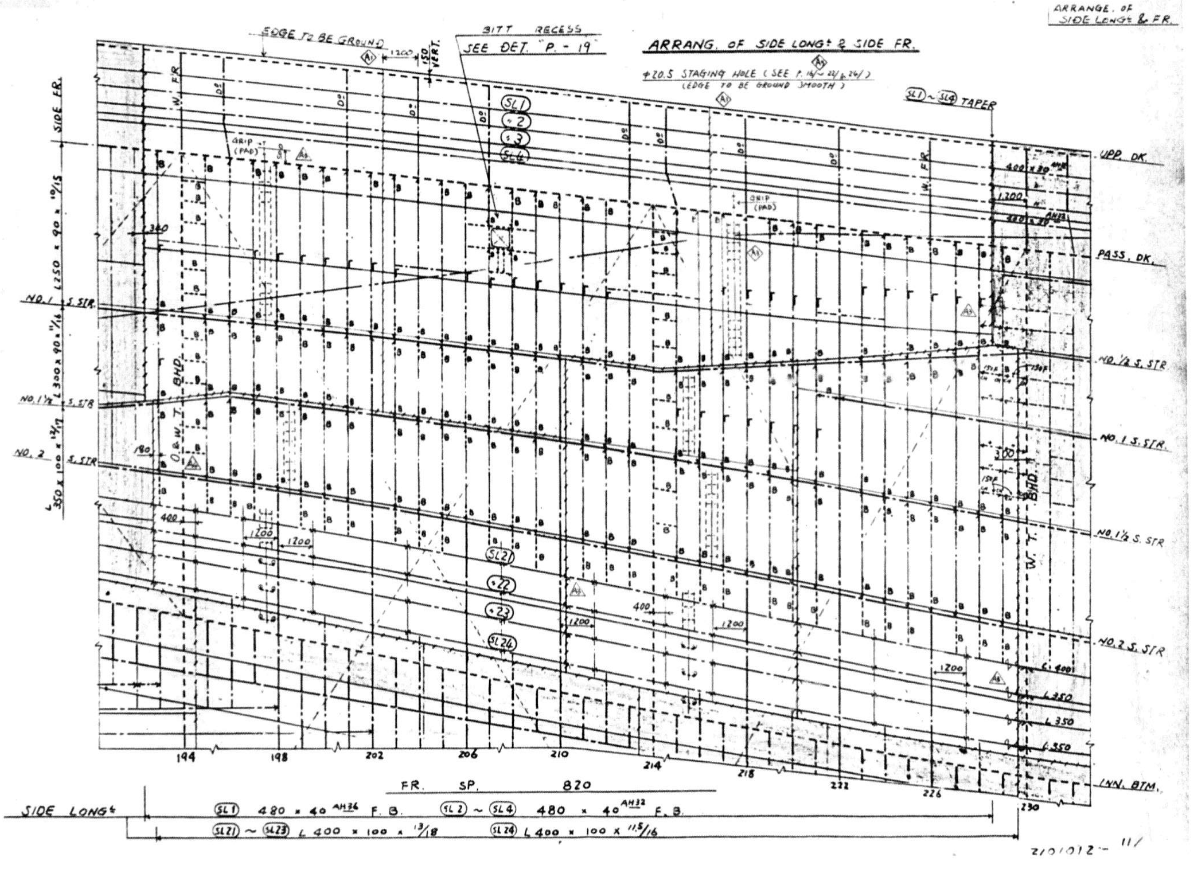
2101012 - 9/

INCL. LONGᵗ BHD.

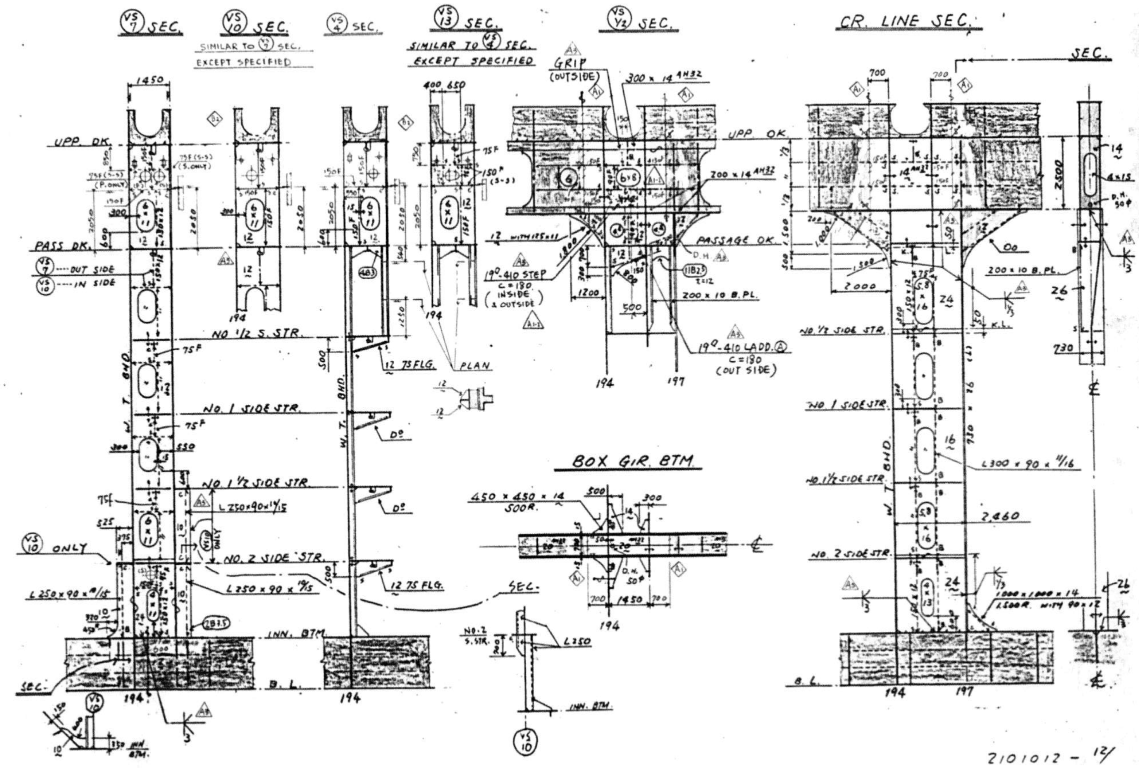


2101012 - 10/

ARRANGE. OF SIDE LONGᵗ & FR.

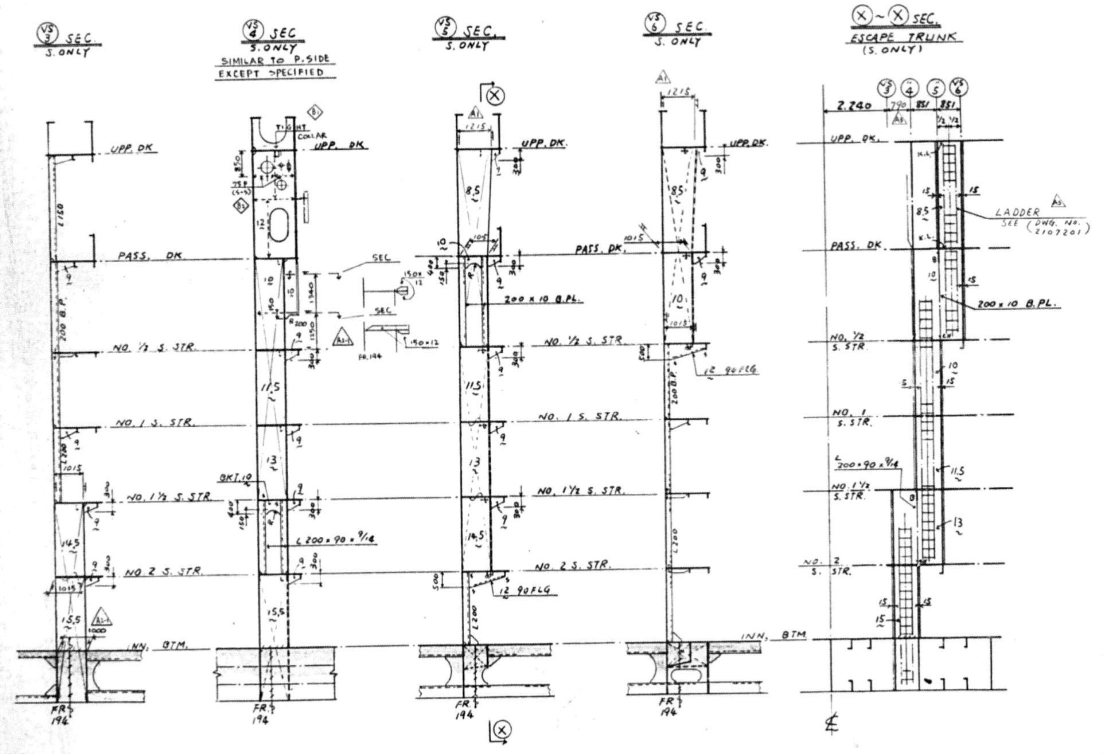


2101012 - 11/

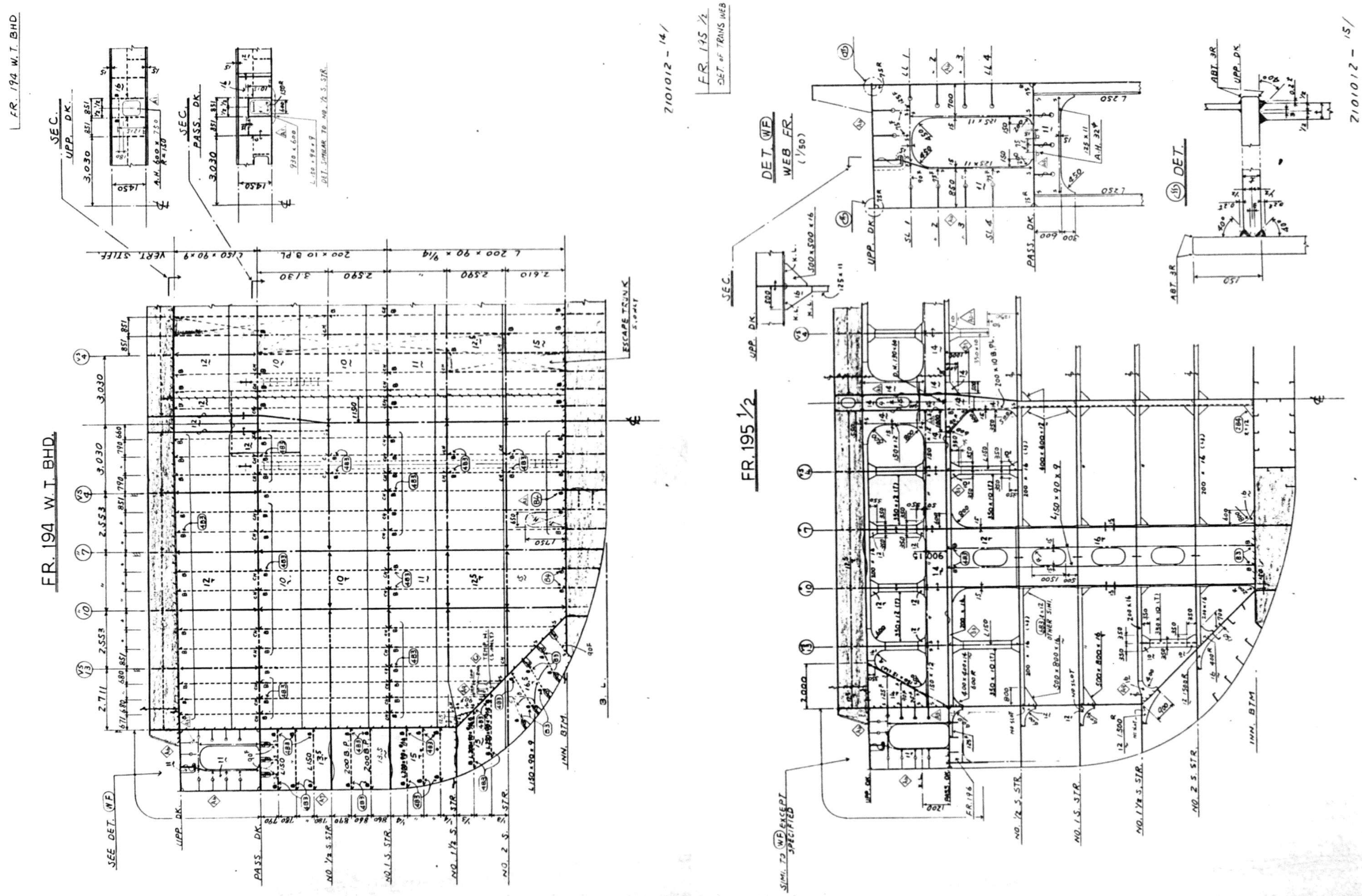


2101012 - 12/

ESCAPE TRUNK

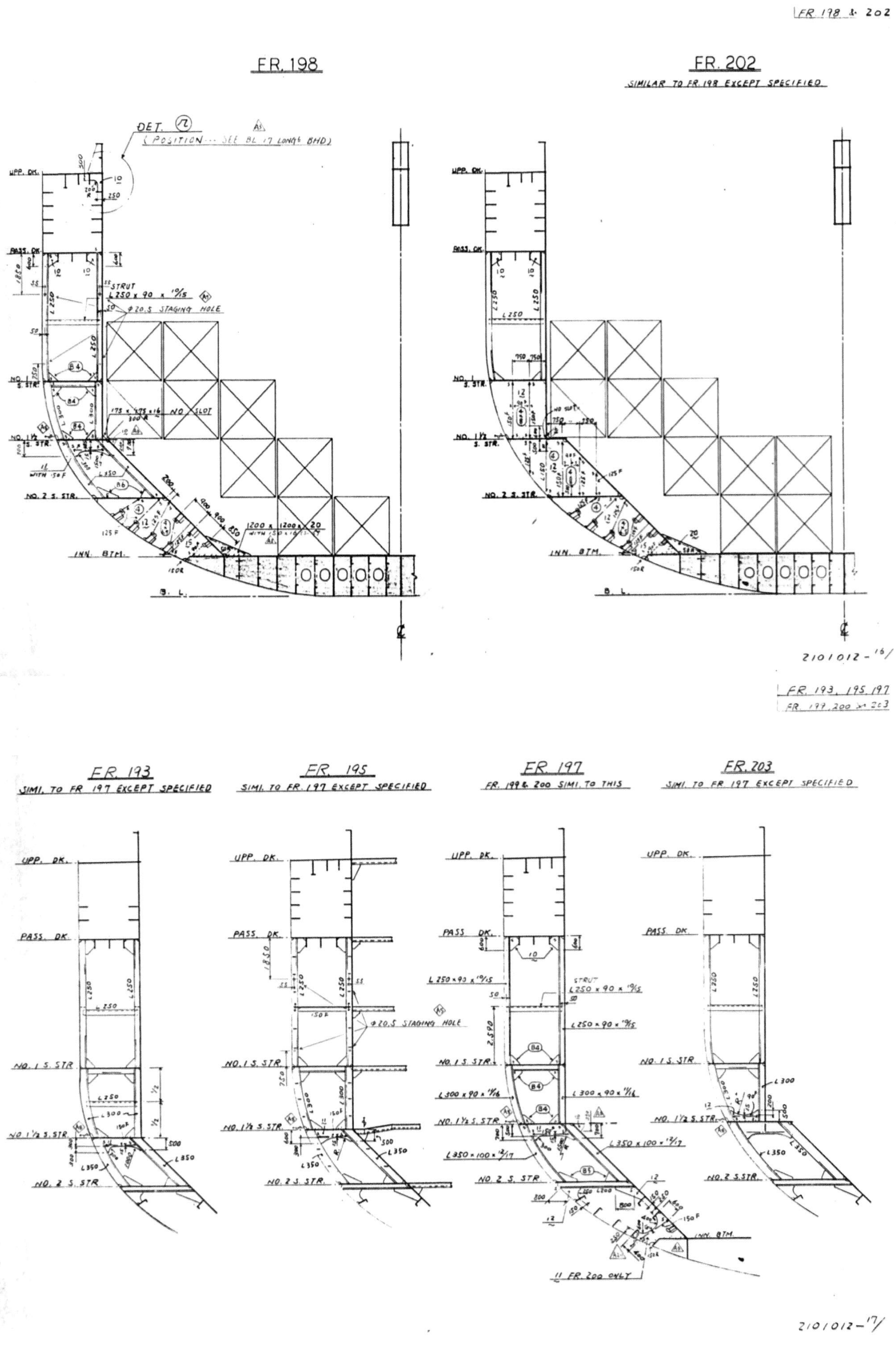


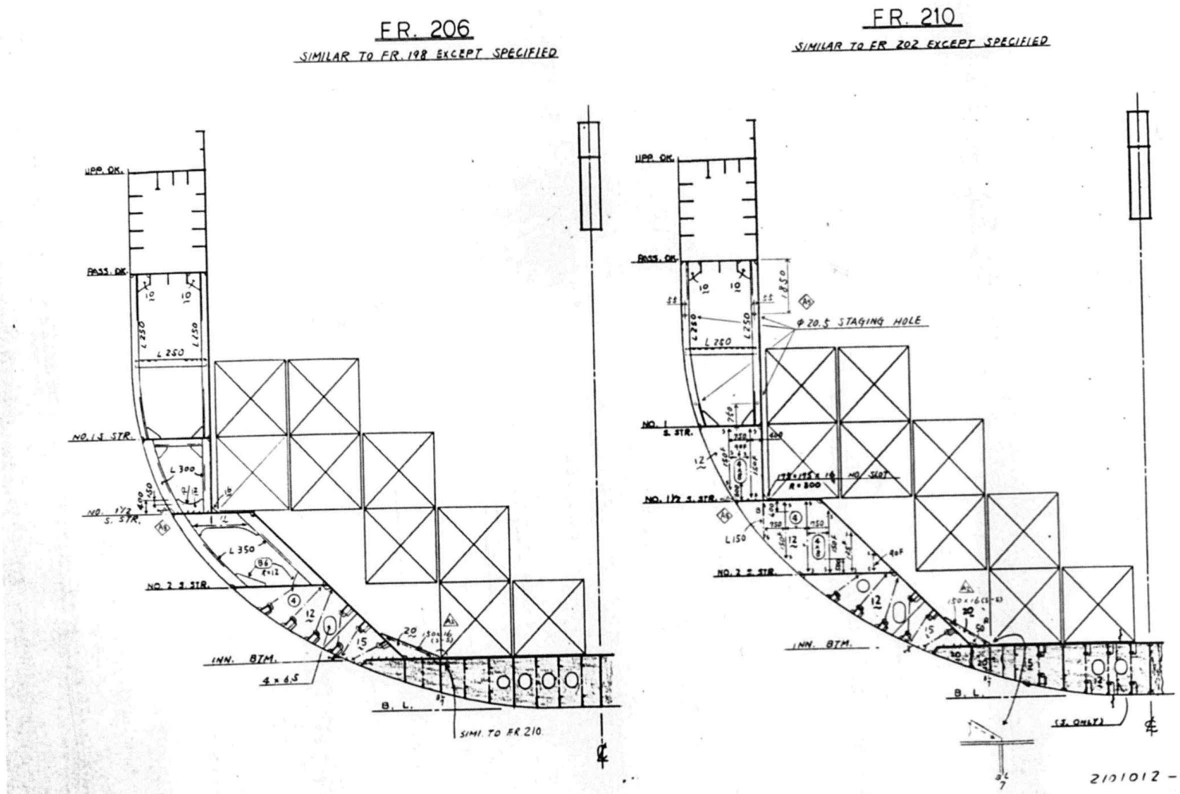
2101012 - 13/



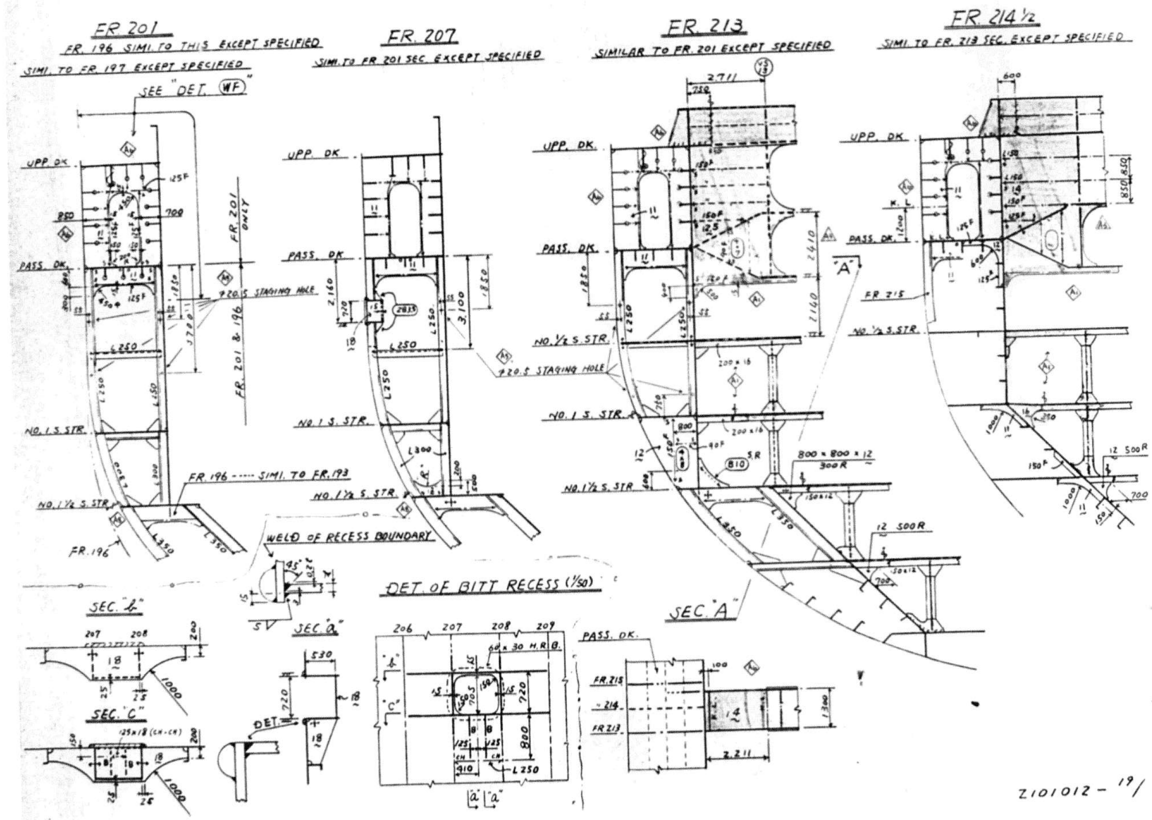
FR. 194 W. T. BHD.
SEC. UPP. DK.
SEC. PASS. DK.
Z101012 - 14/
FR. 195 1/2
DET. OF TRANS WEB
DET. (WF) WEB FR. (1/50)
SEC. UPP. DK.
(15) DET.
Z101012 - 15/

214


FR. 198 & 202
FR. 198
DET. (72) (POSITION... SEE BL 17 LONG'L BHD)
FR. 202
SIMILAR TO FR. 198 EXCEPT SPECIFIED
UPP. DK.
PASS. DK.
NO. 1 S. STR.
NO. 1½ S. STR.
NO. 2 S. STR.
INN. BTM.
B. L.
STRUT L250 x 90 x 10/15
φ20.S STAGING HOLE
NO SLOT
2101012-16/
FR. 193, 195, 197
FR. 199, 200 & 203
FR. 193
SIMI. TO FR 197 EXCEPT SPECIFIED
FR. 195
SIMI. TO FR. 197 EXCEPT SPECIFIED
FR. 197
FR. 199 & 200 SIMI. TO THIS
FR. 203
SIMI. TO FR. 197 EXCEPT SPECIFIED
11 FR. 200 ONLY
2101012-17/

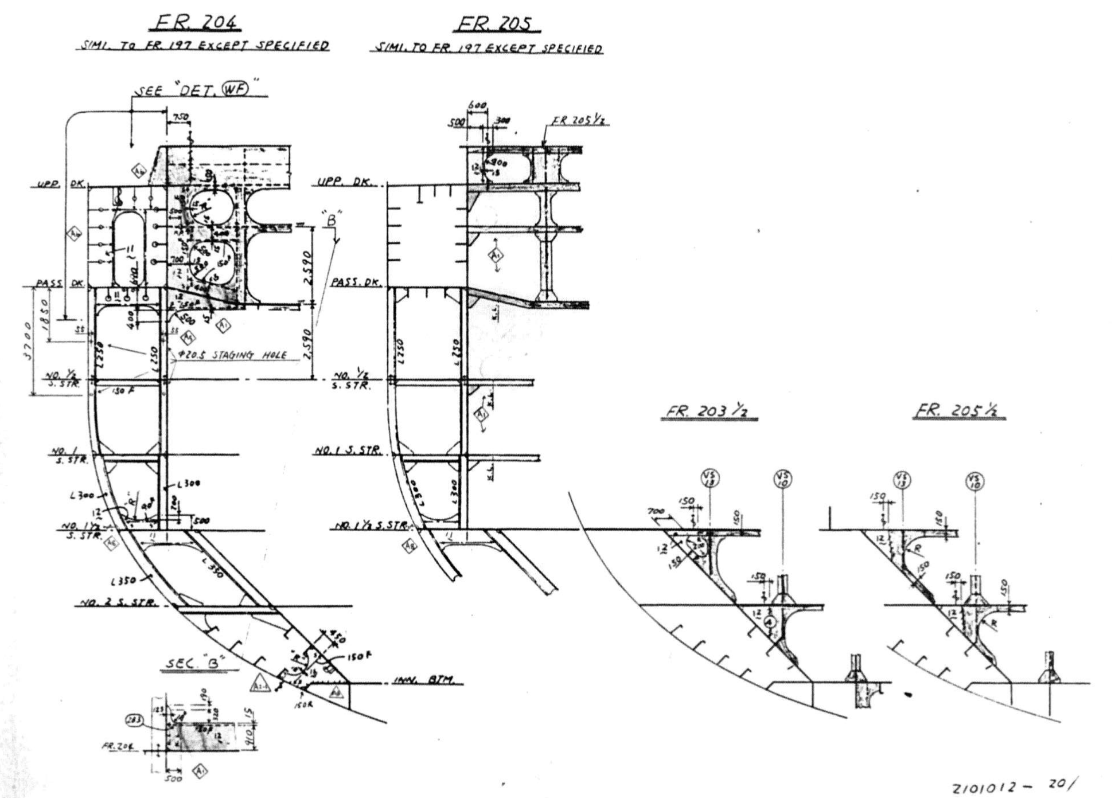


Z101012 - 18/



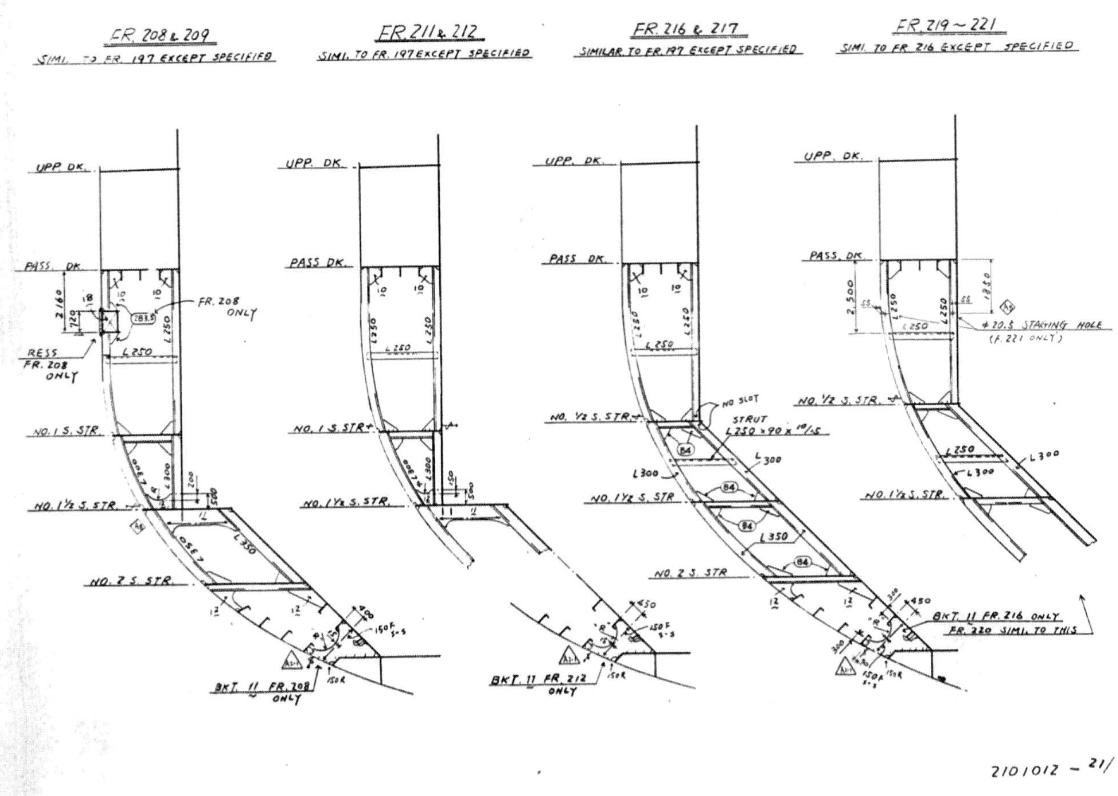
Z101012 - 19/

FR. 203½, 205½
FR 204 & 205



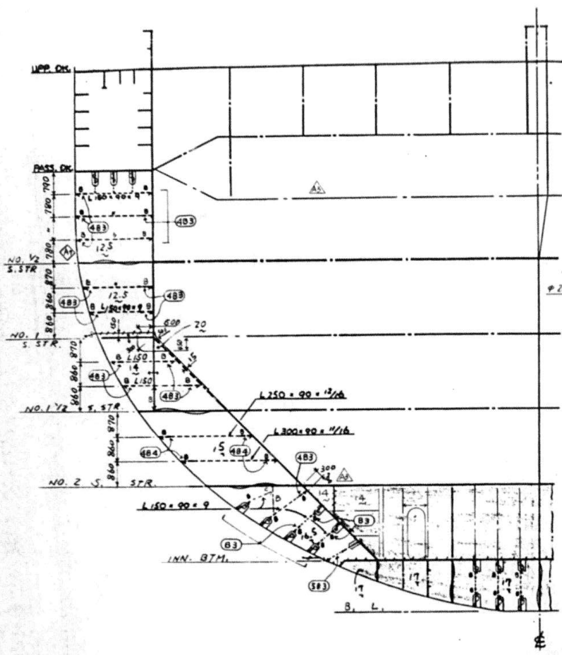
2101012 – 20/

FR. 208 ~ 217
FR. 219 ~ 221



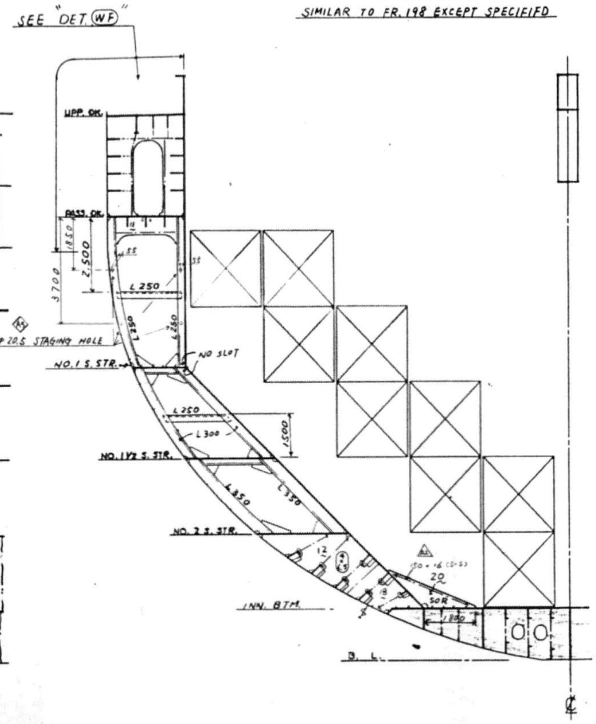
2101012 – 21/

FR. 214



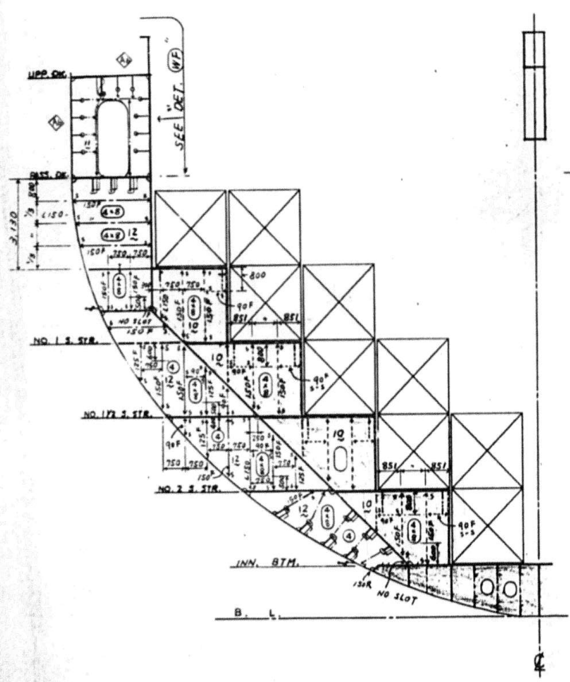
FR. 218

SIMILAR TO FR. 198 EXCEPT SPECIFIED

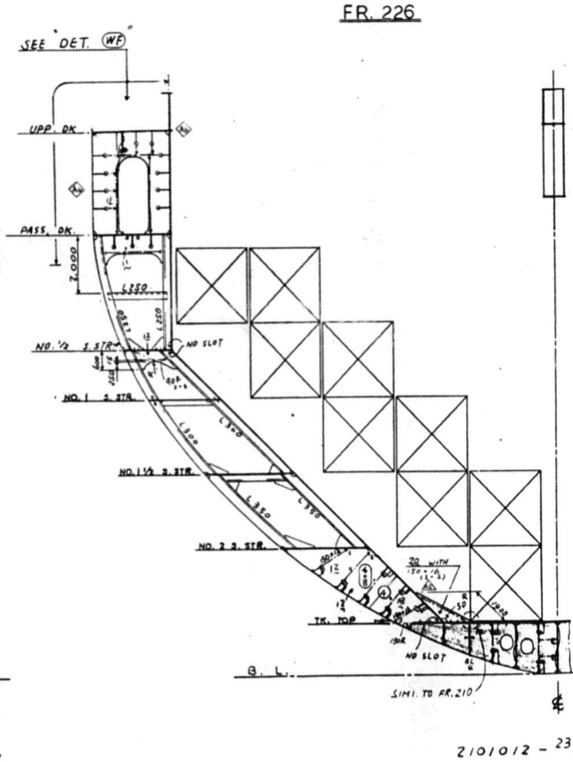


2101012 22/

FR. 222

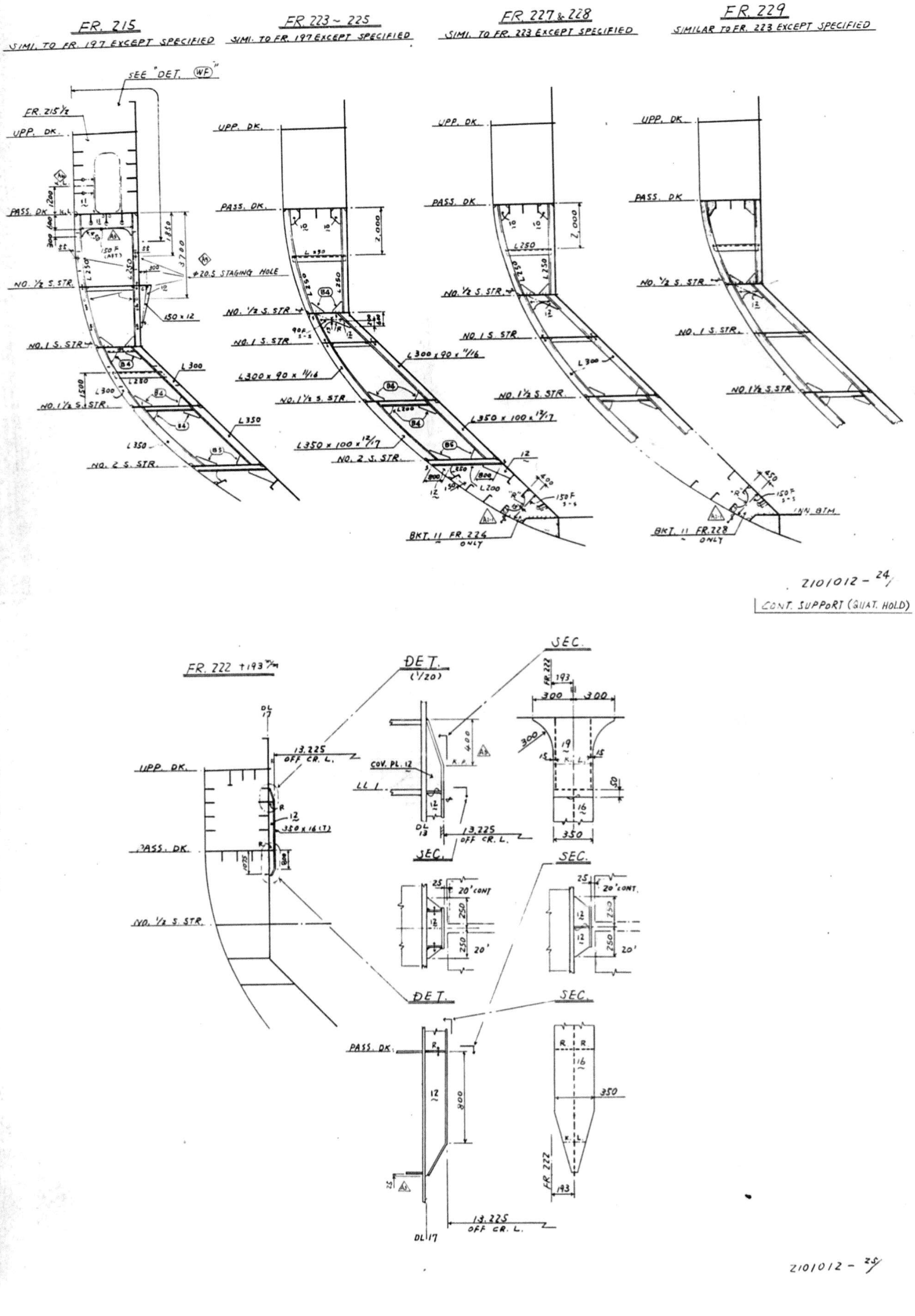


FR. 226



2101012 - 23/

FR. 215.
FR. 223 ~ 229

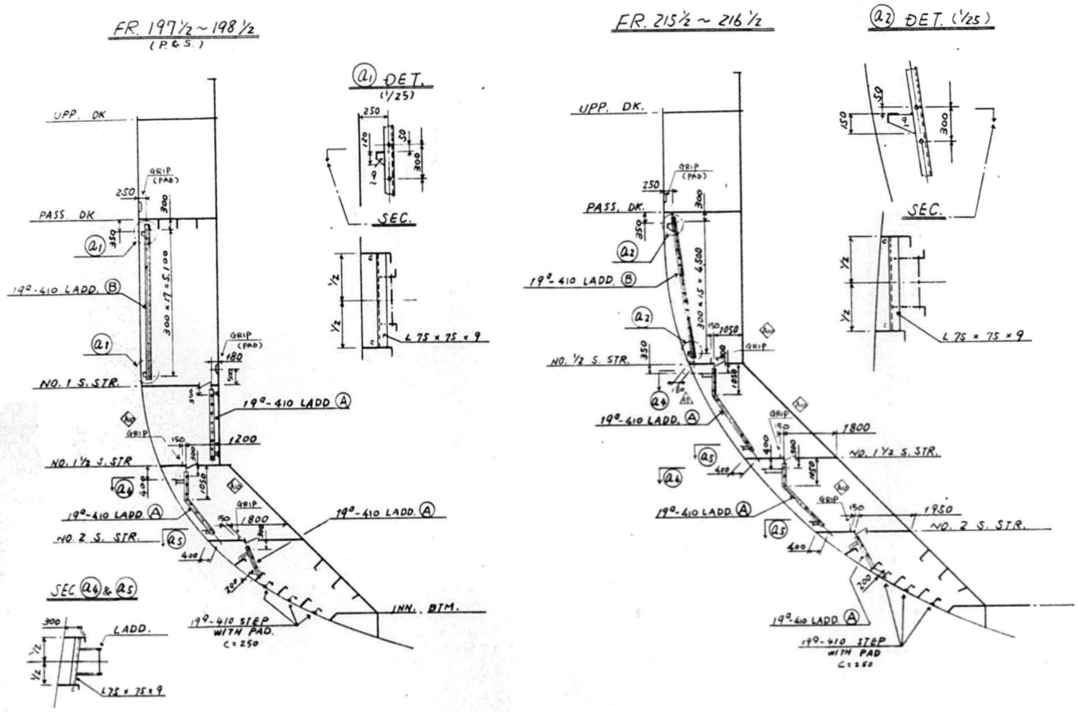


Z101012 - 24/

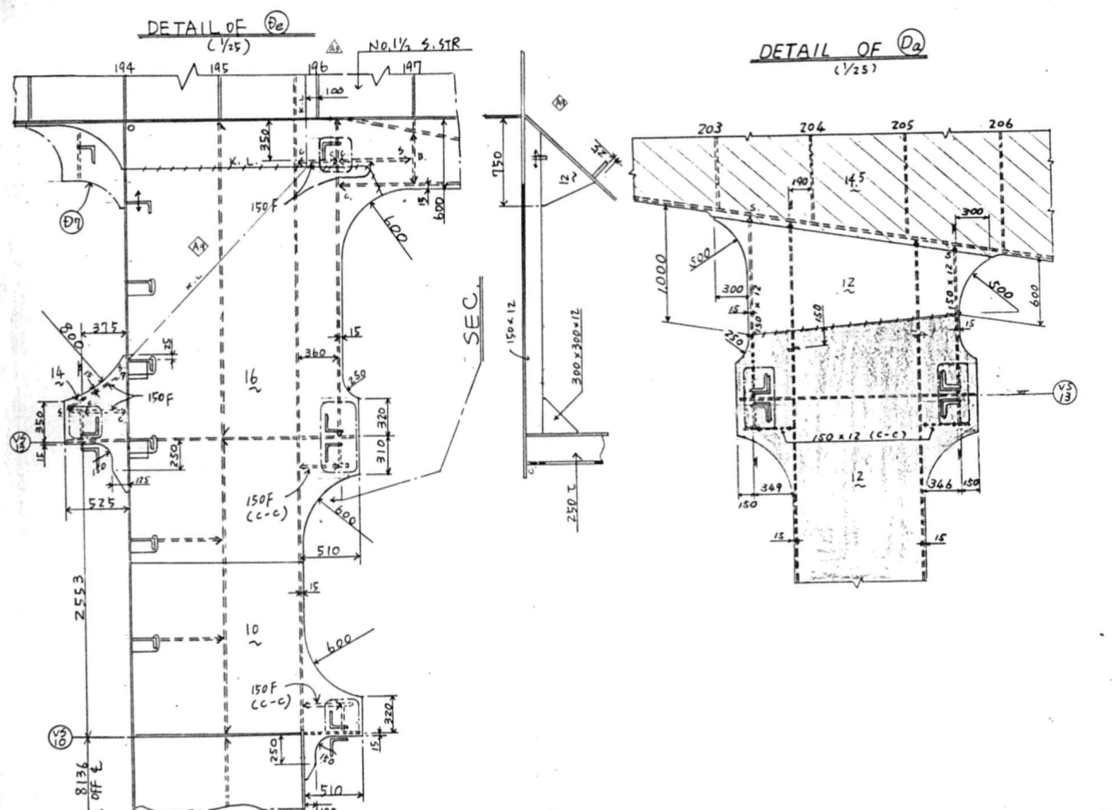
CONT. SUPPORT (QUAT. HOLD)

Z101012 - 25/

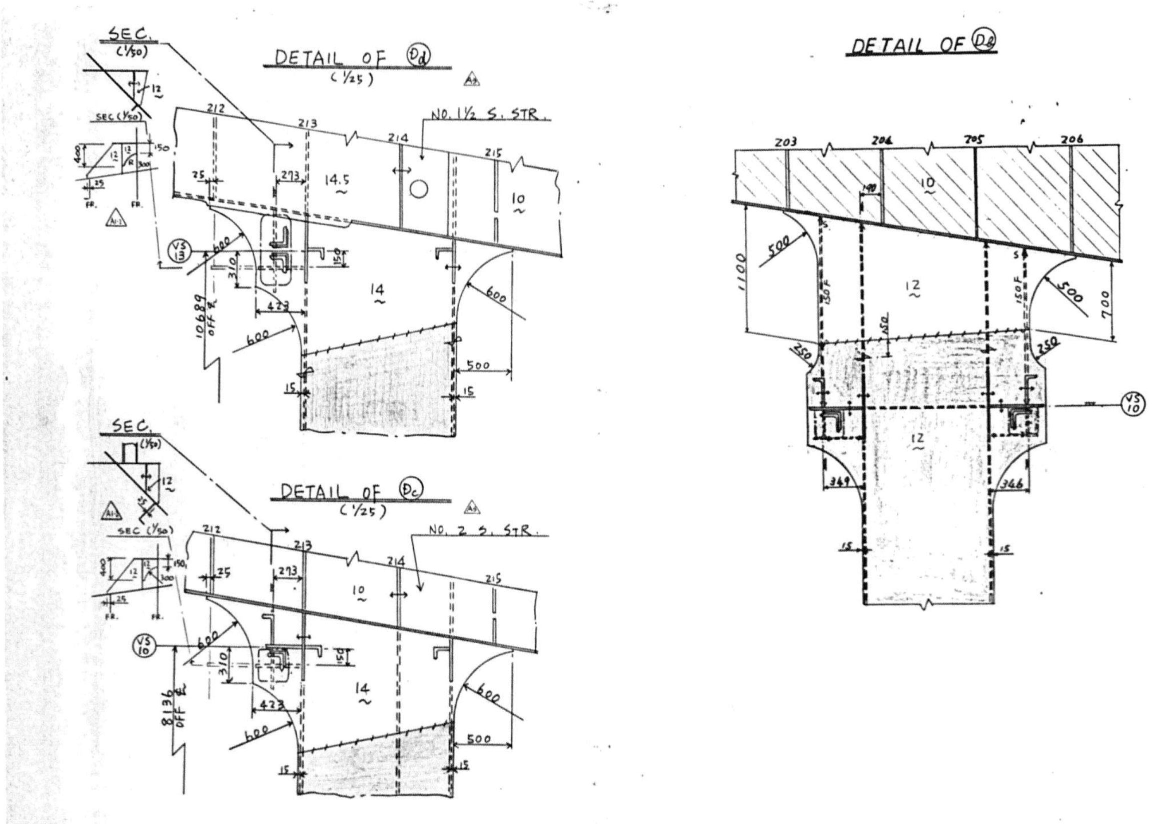
VERT LADDER



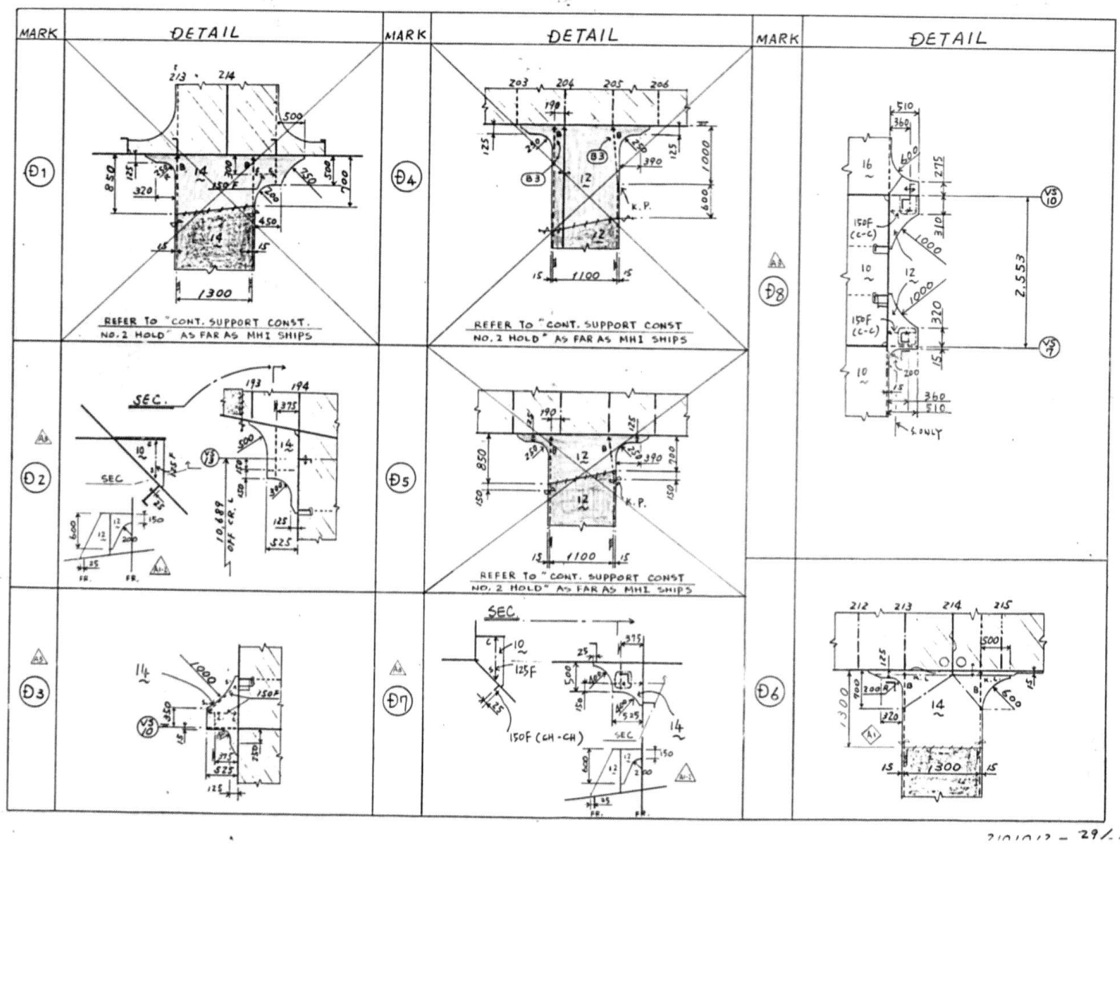
2101012 - 26



2101012 - 27



Z101012 - 28/



Z101012 - 29/

221

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	14 APR '84	OFT			4 JUL '84	T-8-2		
1ST PART REV	3 JUL '84	OFT			11 AUG '84	T-8-2		
2ND PART REV	12 JUL '84				17 SEP '84	T-8-2		
3RD PART REV	AUG				6 OCT '84	T-8-2		

APPROVAL OF OWNER & REGULATORY BODIES

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — STRUCTURE DESIGN SEC. — STAFF: T.E. Fukuda

SHIP'S NO.: 1325 — SHIP'S NAME: TILLIE LYKES

貨物倉構造（オ3,4倉）
CARGO HOLD CONSTRUCTION
(NO. 3 & 4 HOLD)

SCALE: 1/100 — LYKES REF. NO.: 110604 — MITSUI DRAWING NO.: 2101013

(21 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV. 28 '86
		FOR APL MODIFICATIONS, THIS DRAWING WAS MODIFIED PARTLY, AND THESE WERE SHOWN ON "MODIFICATION PLAN OF NO. 4 HOLD (AFT) CONT SUPP (40'×2 → 45')" CHES DWG NO. 2107330M PAGE (4~7 & 10)	

DWG. NO. 2101013 - 1/

NOTES:-

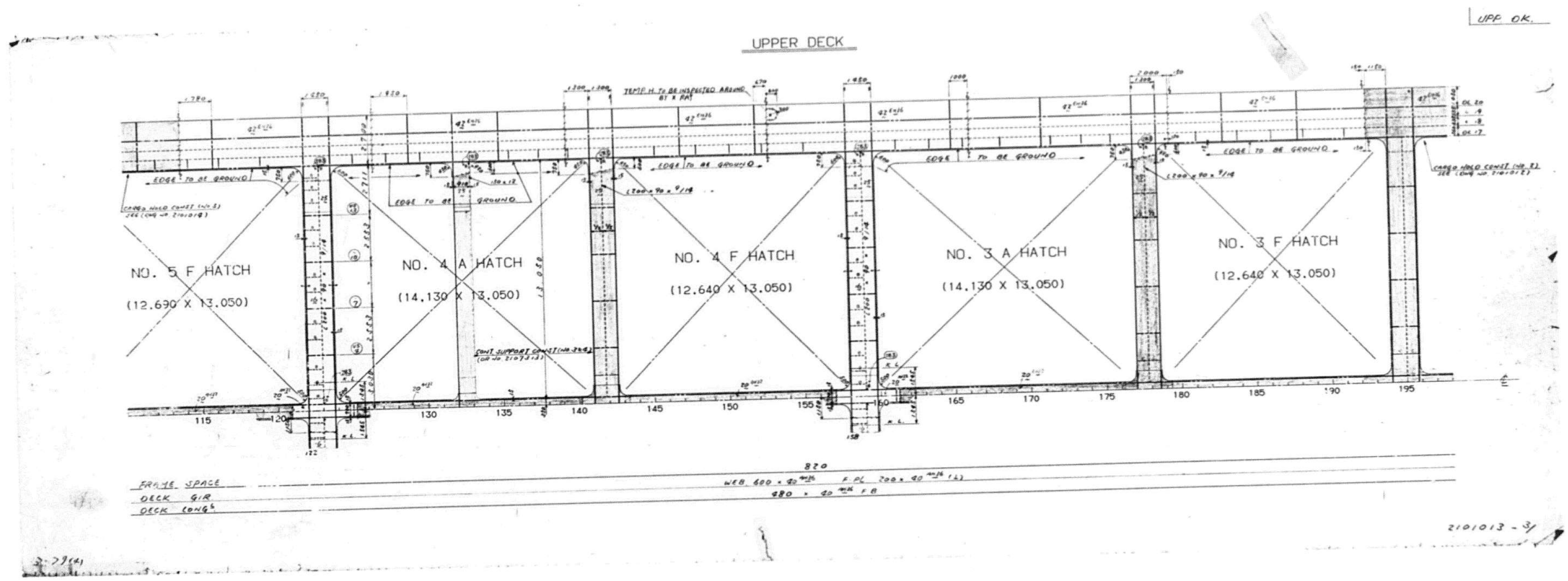
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備考:-

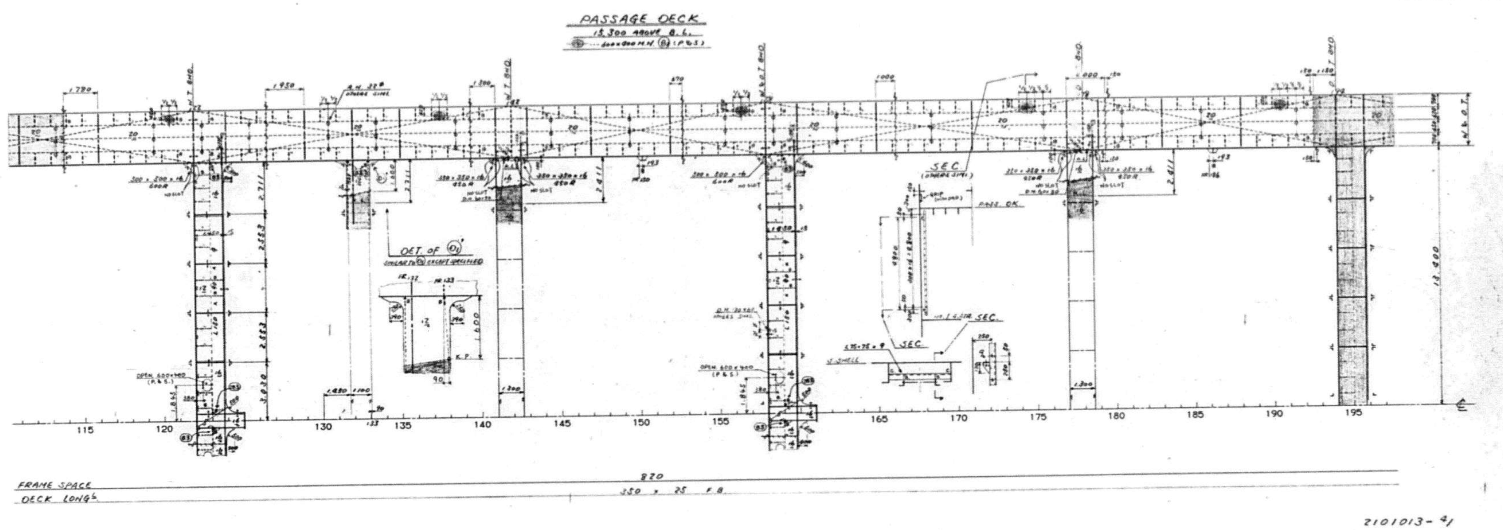
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番 2100811）」を参照のこと。
4. 溶接脚長については，特記の他は「溶接脚長表（図番 2100832）」を参照のこと。

2101013 - 2/

222



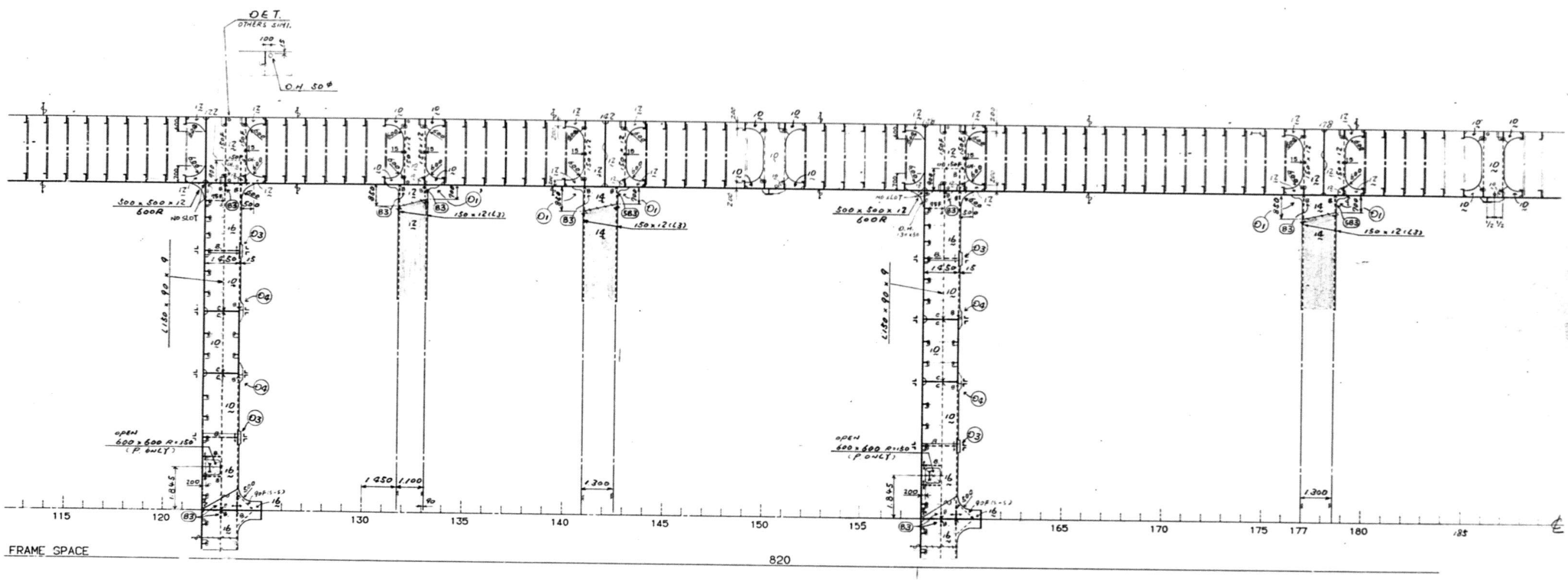
UPPER DECK
NO. 5 F HATCH
(12.690 X 13.050)
NO. 4 A HATCH
(14.130 X 13.050)
NO. 4 F HATCH
(12.640 X 13.050)
NO. 3 A HATCH
(14.130 X 13.050)
NO. 3 F HATCH
(12.640 X 13.050)
EDGE TO BE GROUND
115
120
130
135
140
145
150
155
160
165
170
175
180
185
190
195
FRAME SPACE
DECK GIR
DECK LONGL
820
2101013 - 3/
UPP DK.



PASSAGE DECK
13,300 ABOVE B.L.
PASSAGE DK
FRAME SPACE
820
DECK LONG'L
250 x 25 F.B.
2101013-41

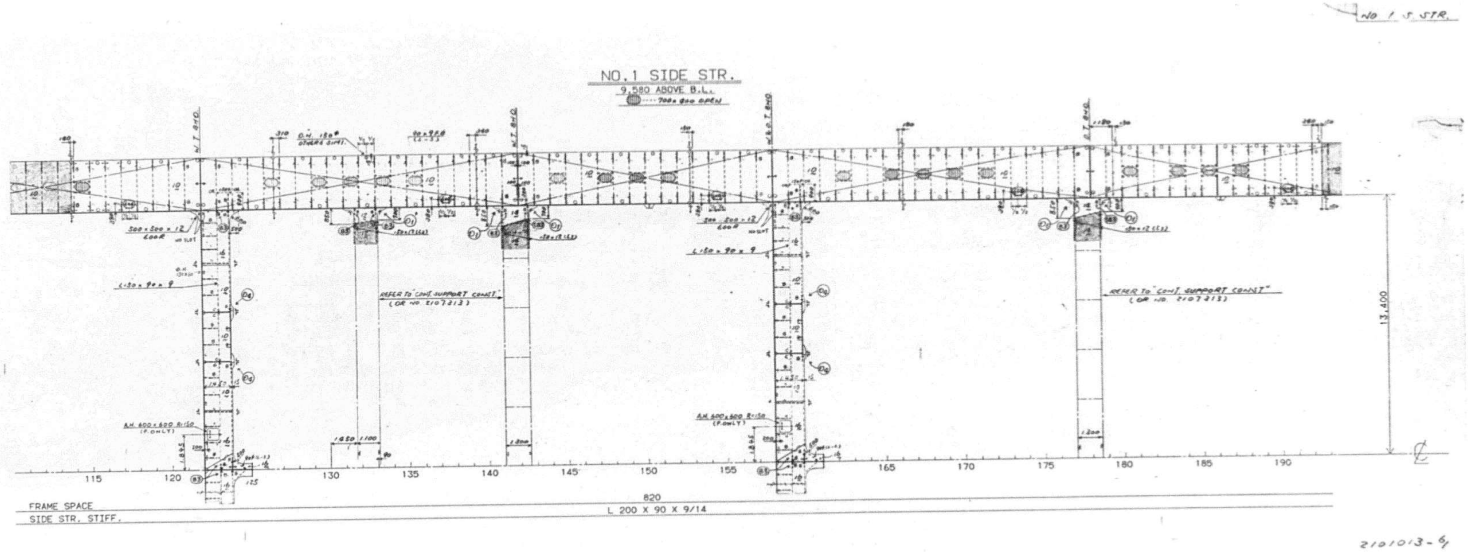
NO. 1/2 S. STR.

12,170 ABOVE B.L.



2101013 - 51

225

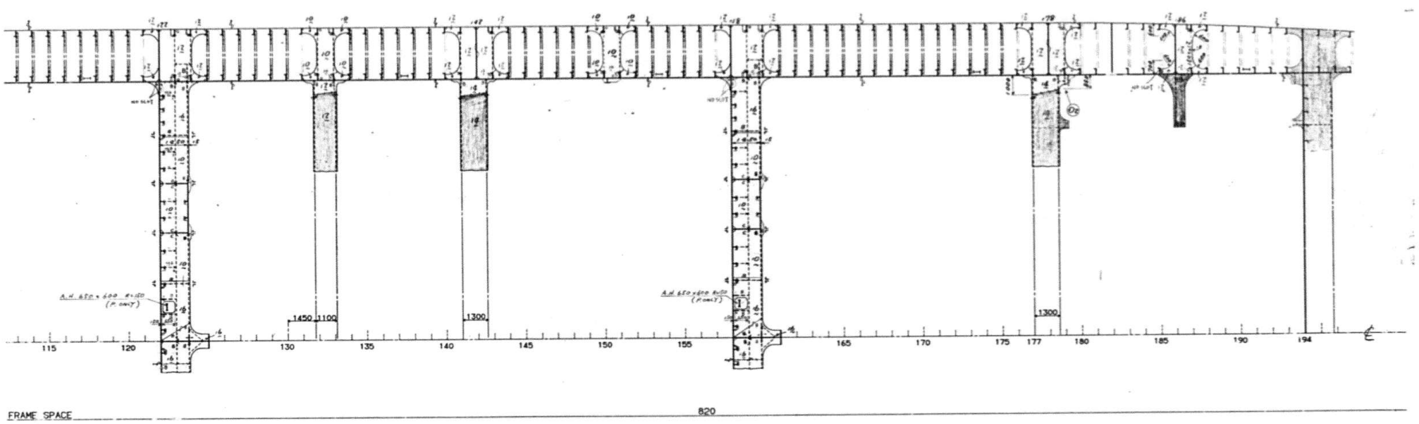

NO. 1 SIDE STR.
9,580 ABOVE B.L.
NO. 1 S. STR.
13,400
FRAME SPACE
820
SIDE STR. STIFF.
L 200 X 90 X 9/14
115
120
125
130
135
140
145
150
155
165
170
175
180
185
190
210013-6/

226

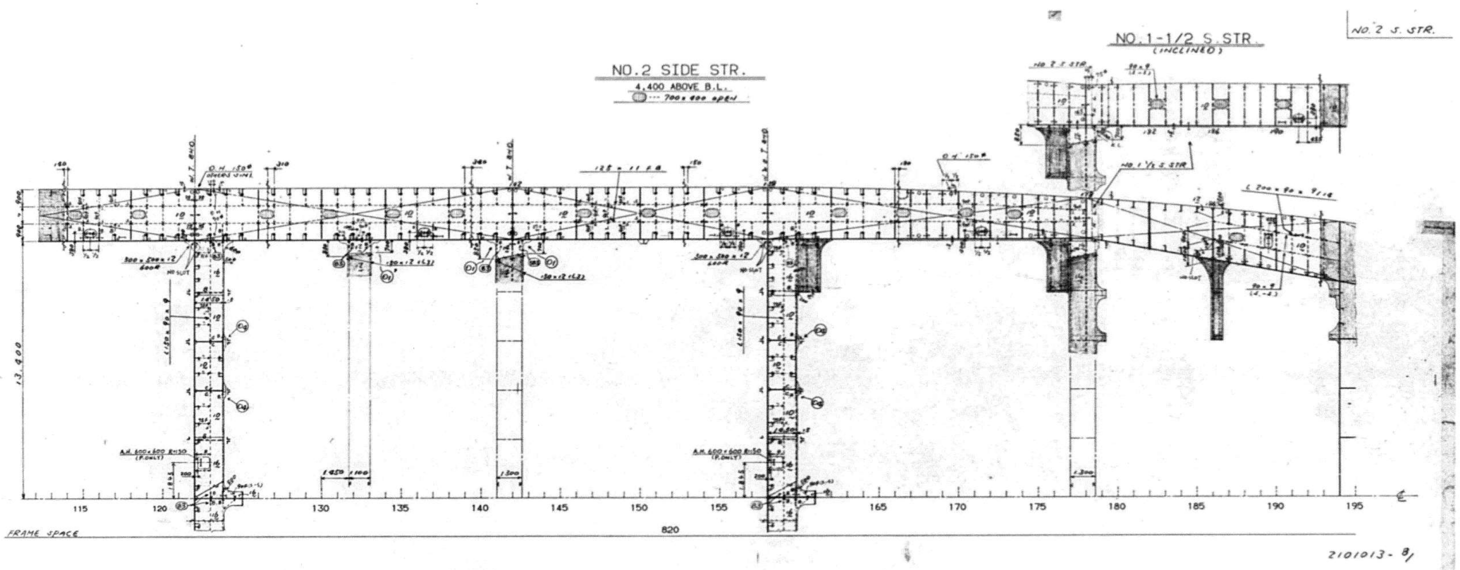
NO.1-1/2 S.STR.

6,990 ABOVE B.L.

SIMILAR TO NO.1/2 S.STR. EXCEPT SPECIFIED.



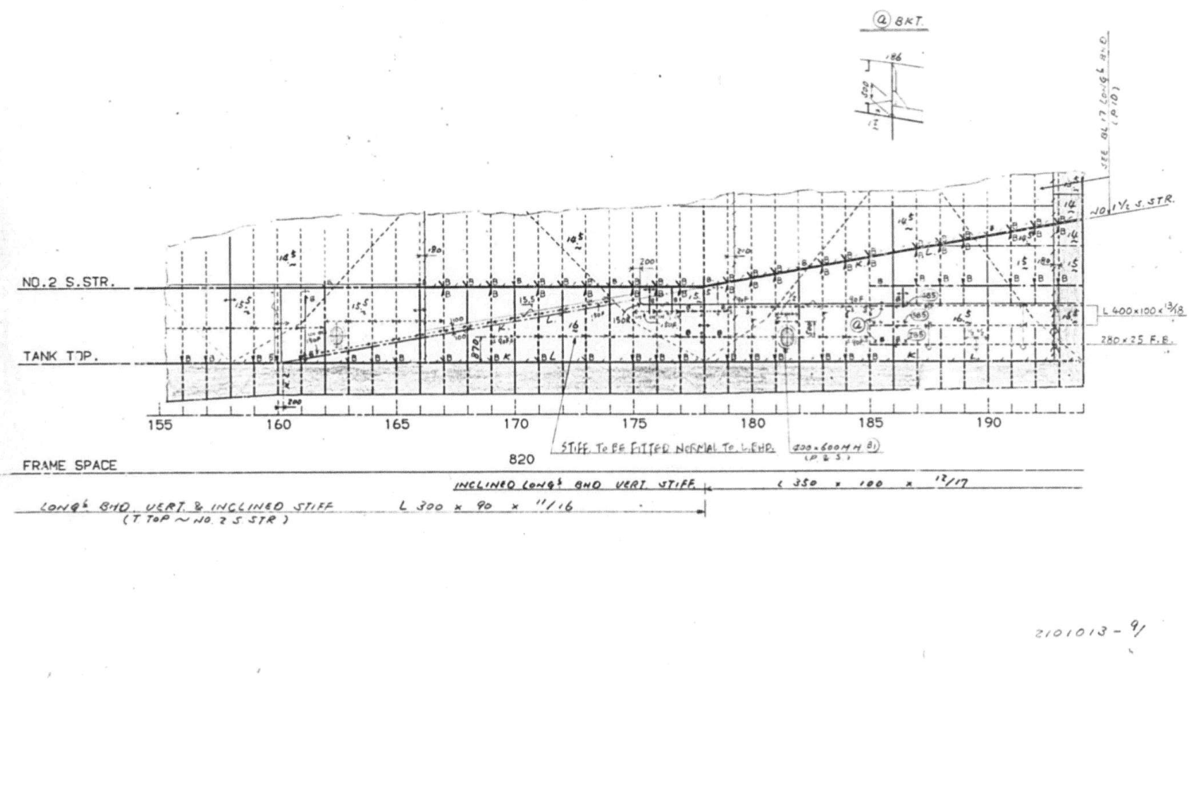
2101013-7



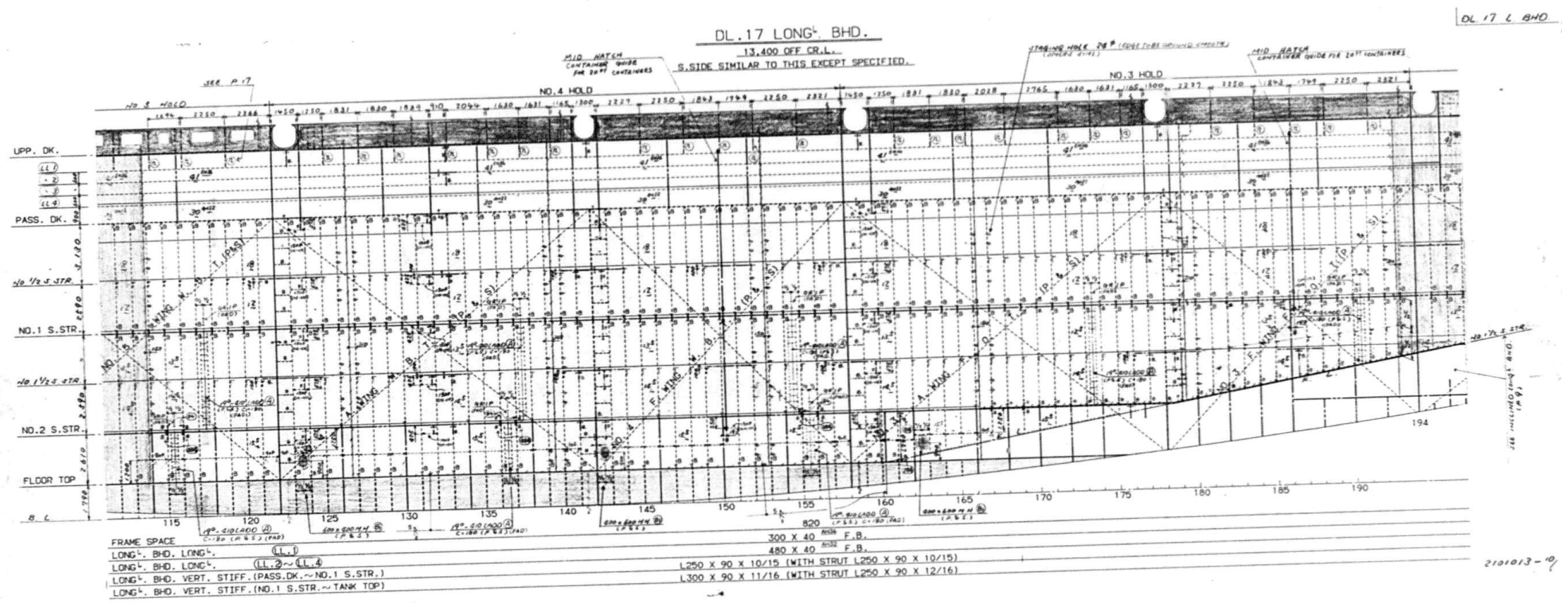
NO.2 SIDE STR.
4,400 ABOVE B.L.
NO.1-1/2 S.STR
(INCLINED)
NO.2 S.STR.
FRAME SPACE
820
2101013-81

INCLINED L. BHD

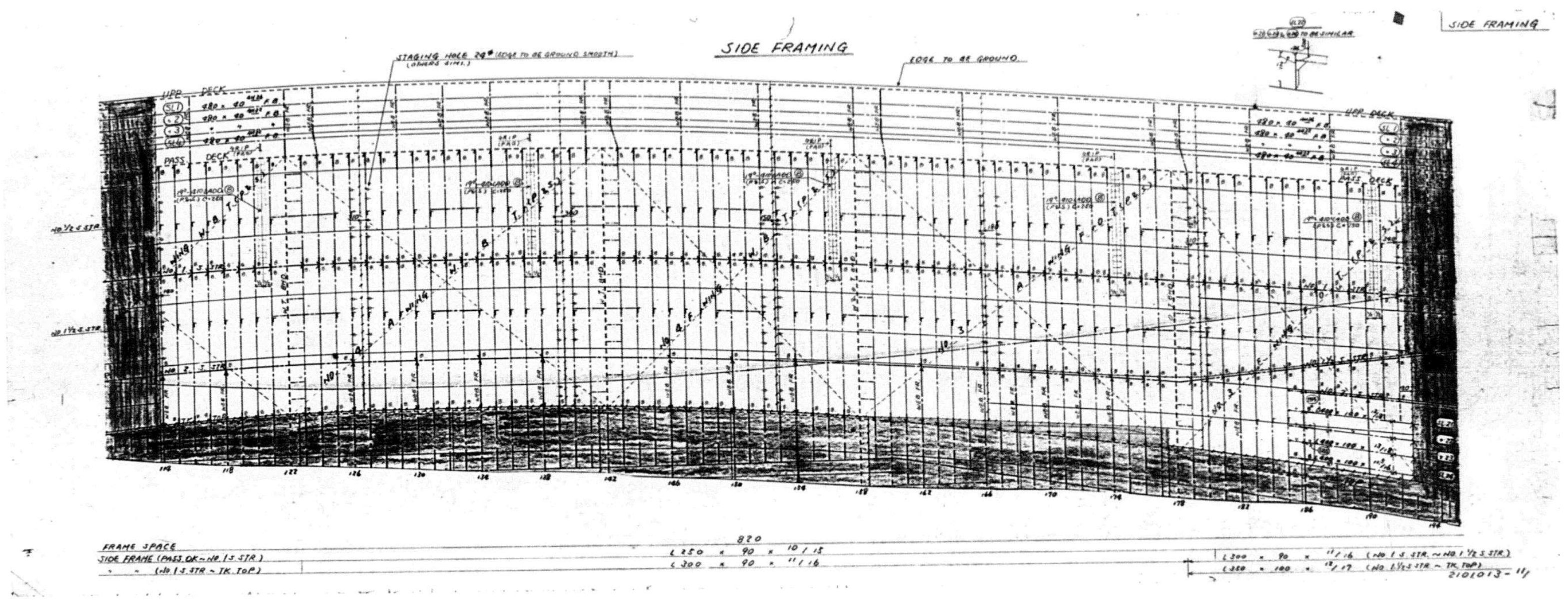
INCLINED LONG^L BHD.



2101013-91



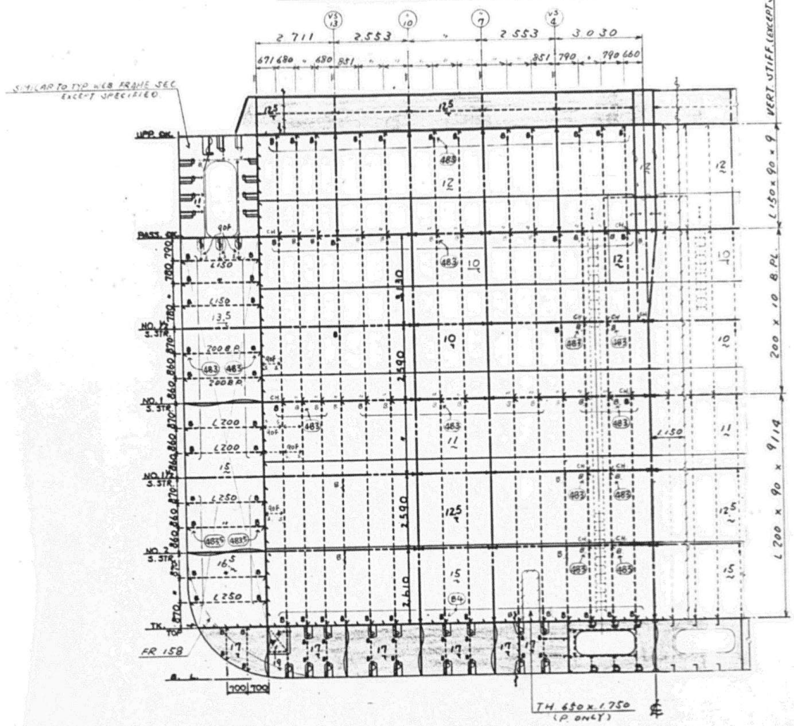
DL.17 LONG'L. BHD.
13,400 OFF CR.L.
S.SIDE SIMILAR TO THIS EXCEPT SPECIFIED.
DL 17 L BHD
NO.4 HOLD
NO.3 HOLD
UPP. DK.
PASS. DK.
NO.1 S.STR.
NO.2 S.STR.
FLOOR TOP
B.L
FRAME SPACE
LONG'L. BHD. LONG'L.
LONG'L. BHD. LONG'L.
LONG'L. BHD. VERT. STIFF.(PASS.DK.~NO.1 S.STR.)
LONG'L. BHD. VERT. STIFF.(NO.1 S.STR.~TANK TOP)
300 X 40 F.B.
480 X 40 F.B.
L250 X 90 X 10/15 (WITH STRUT L250 X 90 X 10/15)
L300 X 90 X 11/16 (WITH STRUT L250 X 90 X 12/16)


SIDE FRAMING
STAGING HOLE
EDGE TO BE GROUND
UPP DECK
PASS DECK
SIDE FRAMING
FRAME SPACE
820
SIDE FRAME (PASS DK ~ NO 1 S STR)
" " (NO 1 S STR ~ TK TOP)
L 250 × 90 × 10 / 15
L 300 × 90 × 11 / 16
L 300 × 90 × 11 / 16 (NO 1 S STR ~ NO 1 1/2 S STR)
L 350 × 100 × 12 / 17 (NO 1 1/2 S STR ~ TK TOP)
2101013 - 11

FR 122 BHD.

FR. 122 W.T. BHD.

FR. 158 TO BE SIMILAR EXCEPT SPECIFIED.

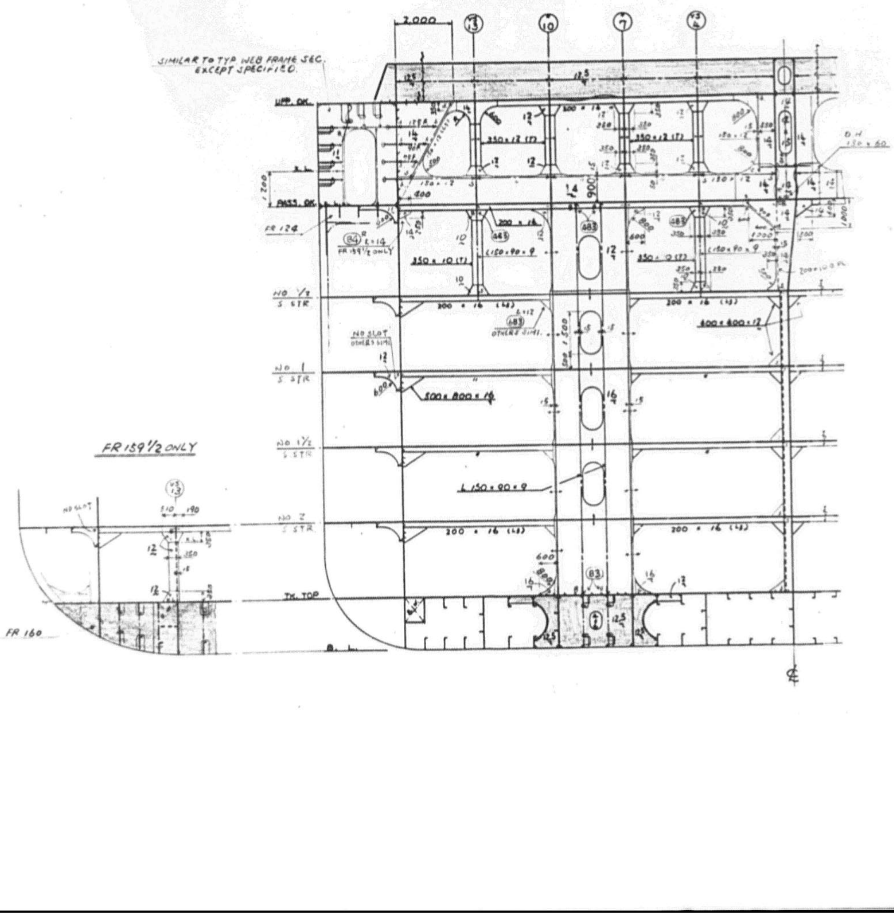


2101013 – 12/

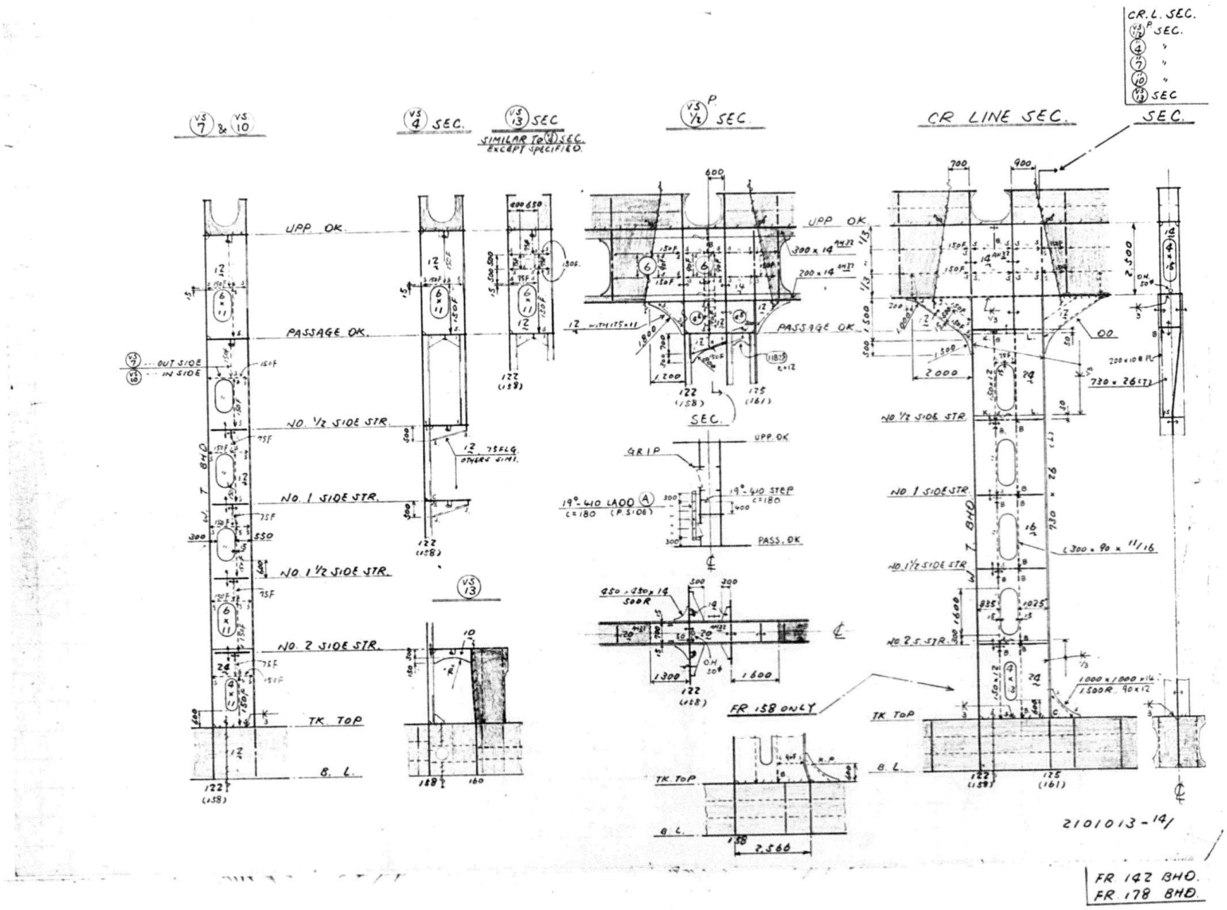
FR. 123½

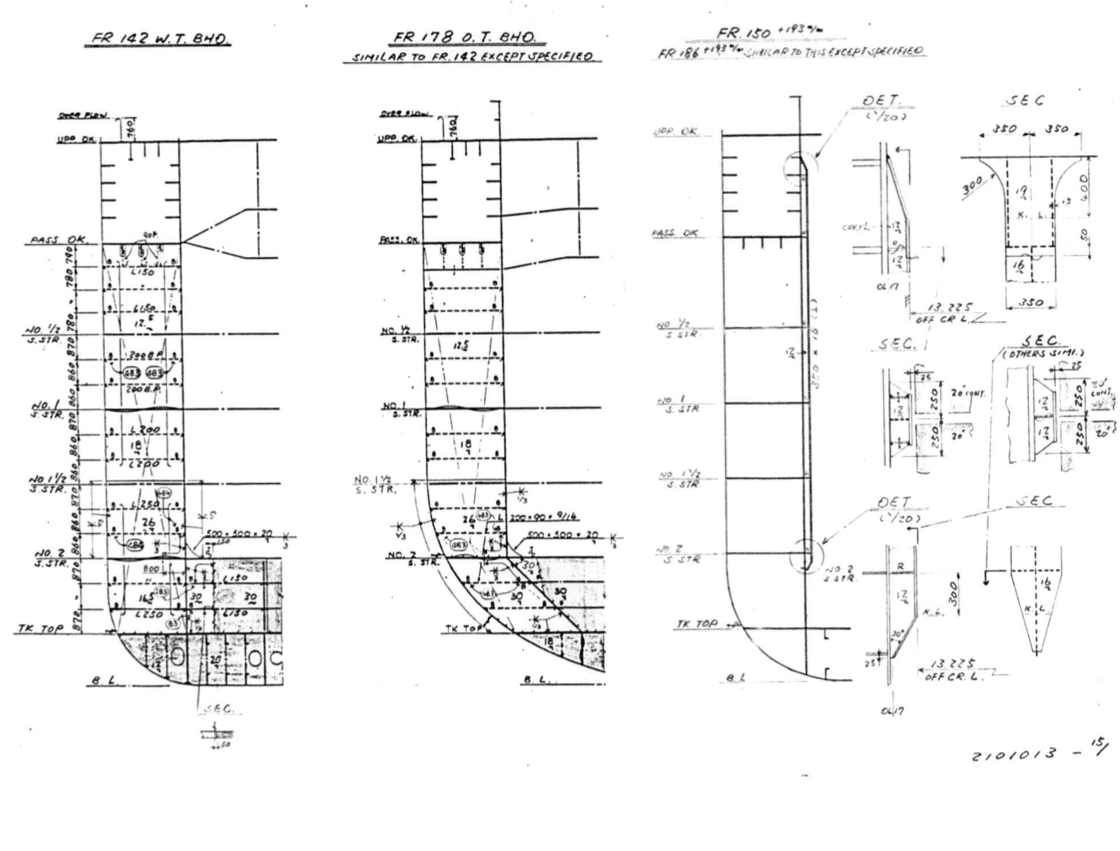
FR. 123½

FR. 159½ TO BE SIMILAR EXCEPT SPECIFIED



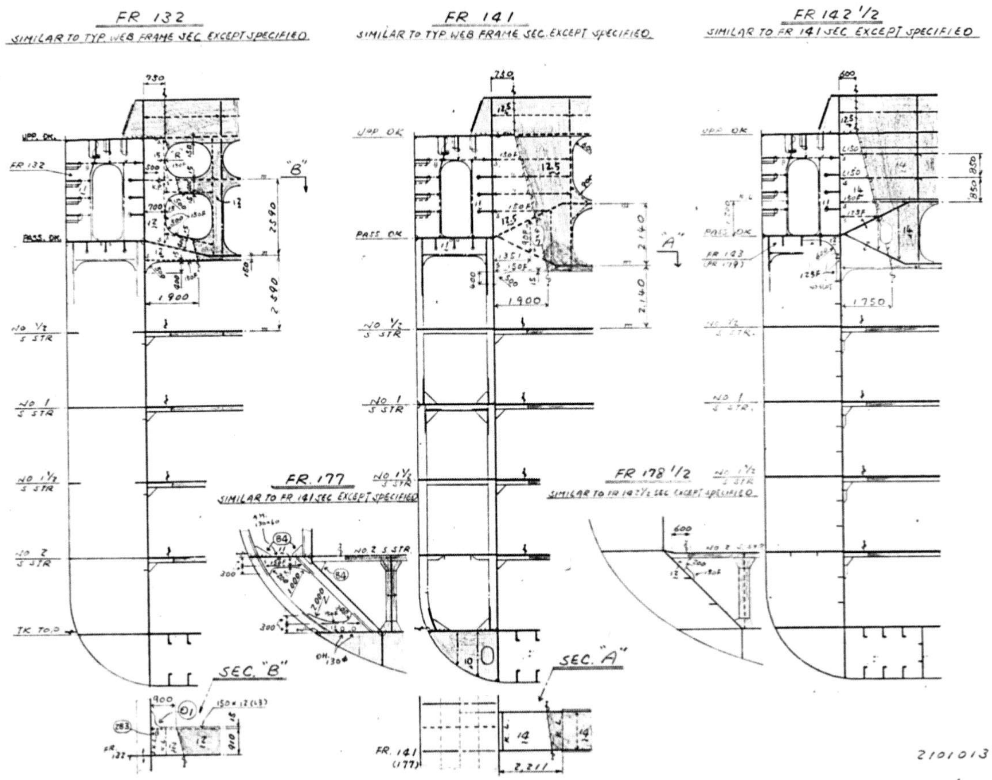
2101013 – 13/


CR.L.SEC.
VS 7 & VS 10
VS 4 SEC.
VS 13 SEC.
SIMILAR TO VS 4 SEC. EXCEPT SPECIFIED.
VS 1/2 P SEC.
CR LINE SEC.
SEC.
UPP. DK.
PASSAGE DK.
NO. 1/2 SIDE STR.
NO. 1 SIDE STR.
NO. 1 1/2 SIDE STR.
NO. 2 SIDE STR.
TK. TOP
B. L.
GRIP
PASS. DK.
FR 158 ONLY
T. BHD.
2101013 - 14/
FR 142 BHD.
FR 178 BHD.


FR 142 W.T. BHD.
FR 178 O.T. BHD.
SIMILAR TO FR. 142 EXCEPT SPECIFIED.
FR. 150 +193%
FR 186 +193% SIMILAR TO THIS EXCEPT SPECIFIED
UPP. DK.
PASS. DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
TK TOP
B. L.
DET. (1/20)
SEC.
SEC. 1
SEC. (OTHERS SIMI.)
13.225 OFF CR. L.
2101013 - 15/

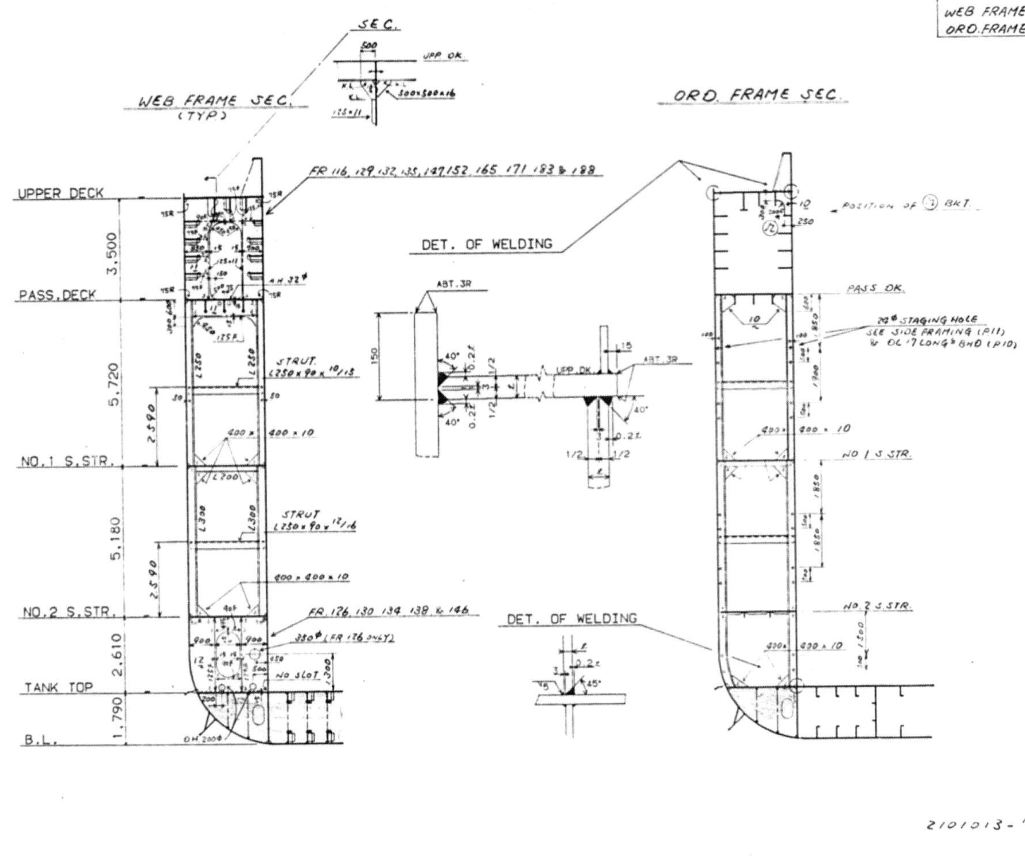
233

FR 132 SEC.
" 141 "
FR 142 1/2 SEC.



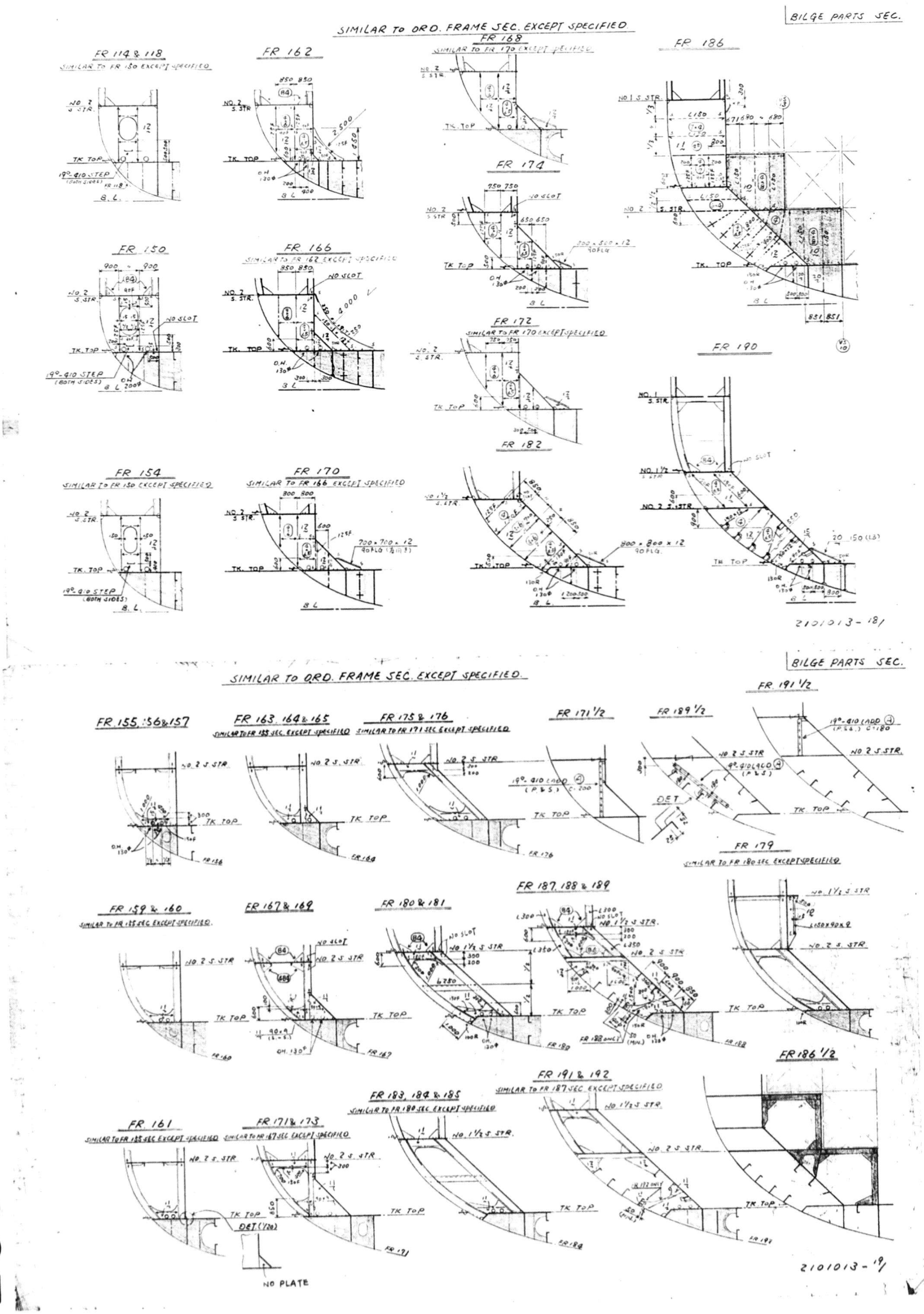
2101013 - 16/

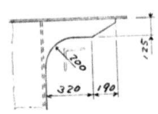
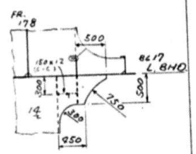
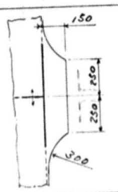
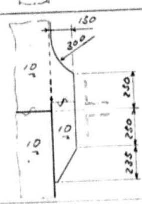
WEB FRAME SEC.
ORD. FRAME SEC.



2101013 - 17/

234


BILGE PARTS SEC.
SIMILAR TO ORD. FRAME SEC. EXCEPT SPECIFIED
FR 114 & 118
FR 162
FR 168
FR 186
FR 174
FR 150
FR 166
FR 172
FR 190
FR 182
FR 154
FR 170
2101013-18
BILGE PARTS SEC.
SIMILAR TO ORD. FRAME SEC. EXCEPT SPECIFIED
FR 191 1/2
FR 155, 156 & 157
FR 163, 164 & 165
FR 175 & 176
FR 171 1/2
FR 189 1/2
FR 179
FR 159 & 160
FR 167 & 169
FR 180 & 181
FR 187, 188 & 189
FR 186 1/2
FR 191 & 192
FR 183, 184 & 185
FR 161
FR 171 & 173
NO PLATE
2101013-19
235

MARK	DETAIL	MARK	DETAIL
D1			
D2			
D3			
D4			

2101013 - 20/20

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.	—	FOLLOWED MES ORIGINAL PLAN.	APR. 23.'85	
-10	A	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. ADDED OR CHANGED BLOCK BUTT JOINTS ON UPPER DK, LONGL BHD, SIDE SHELL, PASSAGE DK, SIDE STRINGER & CENTER LINE LONGL WEB, AND MODIFIED SHAPE OF CORNER SLOTS OF ORD FR. ON NO.1 SIDE STR. 2. SHIFTED BLOCK BUTT JOINTS ON HORIL GIRDER & TRANS WEB OF CONTAINER SUPPORT CONSTRUCTION. 3. DELETED TEMPORARY HOLE. 4. REARRANGED STAGING HOLES ON ORD. FR. 5. MODIFIED SHAPE OF SLOTS ON WEB IN PASSAGE WAY FROM TYPE AM (WITH COLLAR PLATE TYPE AM1) TO TYPE BM. (REFER TO MIDSHIP SECTION) 6. PENETRATED NO. 1/2 SIDE STR. PLATES AT FR. 122 & 158 BHD, RESPECTIVELY AND ADDED DRAIN HOLES. BASED DWG: MES DWG NO. 2101013 (INCL. PARTLY REVISED PLAN NO. 1)	JUN. 11,'85	
-11		FOLLOWED MES PARTLY REVISED PLAN NO. 2 & 3	JUL. 22.'85	

23 SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION
APPROVED	CLASS ABS
CHECKED	貨物倉構造 (オ3,4倉) CARGO HOLD CONSTRUCTION (NO. 3 & 4 HOLD)
DRAWN	
SCALE	
ORDER	01-15800 ~~01-15000~~ ~~01-10400~~
DRAWING NO.	HS-11430-F
LYKES REF. NO.	110604

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

PLAN RECORD BY MHI (CONTINUE)

ALT. NO.	MARK	DISCRIPTION	DATE	BY
-12	B	1. ADDED NON-T. COLLAR PLATES ON NO. 1/2, 1 1/2 & 2 HORIL GIRDERS. 2. REARRANGED PANEL STIFFENERS ON VS 4, 7, 10 & 13 VERTICAL WEBS. 3. SHIFTED BUTT JOINTS OF FACE PLATES ON VS 4 & 13 VERT. WEB. 4. ADDED BACK-UP RIBS ON VS 4 & 13 VERT. WEB.	SEP. 17.'85	
-13	C	ADDED TEMP. CABLE HOLE ON FR. 122 & 158 BHD	JUN. 17.'86	
-14	D	ADDED TEMP. HOLES ON LONGL BHD AT FR. 135½, 152½, 174½ & 192½.	JUL. 2.'86	
-F	—	PREPARED AS FINISHED PLAN FOR S.NO. 1158	MAR. 11.'87	

HS-11430

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	24 APR '85	OPTS/MES/328						

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SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~	MITSUBISHI KOBE
NO. 1323 ~~DOCTOR LYKES~~	NO. 1158 JAMES LYKES
NO. 1324 ~~ALMERIA LYKES~~	NO. 1159 ~~JOSEPH LYKES~~
NO. 1325 ~~TILLIE LYKES~~	NO. 1164 ~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER	SHIP'S NO. / SHIP'S NAME
STRUCTURE DESIGN SEC. SEC. CHIEF N. Yamamoto / ASSIST. CHIEF / CHARGE	PARTLY REVISED PLAN NO. 2 — 貨物倉構造 (オ3,4倉) CARGO HOLD CONSTRUCTION (NO. 3 & 4 HOLD)
STAFF T.E. Fukuda	
DATE 60.7.12	
JOB NO. TS1323/24/25	SCALE 1/100
LYKES REF. NO. 110604	MITSUI DRAWING NO. 2101013-2

(3 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS.	MARCH. 5 '85
1	1	REVISED ACCORDING TO OWR'S REQ. (DATED 24TH APR '85 / LTR NO. OPTS/MES/328)	MAY 27 '85 J.M
	1	REVISED ACCORDING TO DISCUSSION WITH OWNER DATED 1ST APR '85	
	1	REVISED ACCORDING TO DISCUSSION WITH ABS.	
	1	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	
	1	REVISED ACCORDING TO OWR'S REQ. (DATED 8TH FEB '85 / LTR NO. OPTS/MES/070)	
2	2	REVISED ACCORDING TO OWR'S COMMENT BY SUPERINTENDENT IN TAMANO.	JUL 10. '85 J.M

DWG. NO. 2101013

237

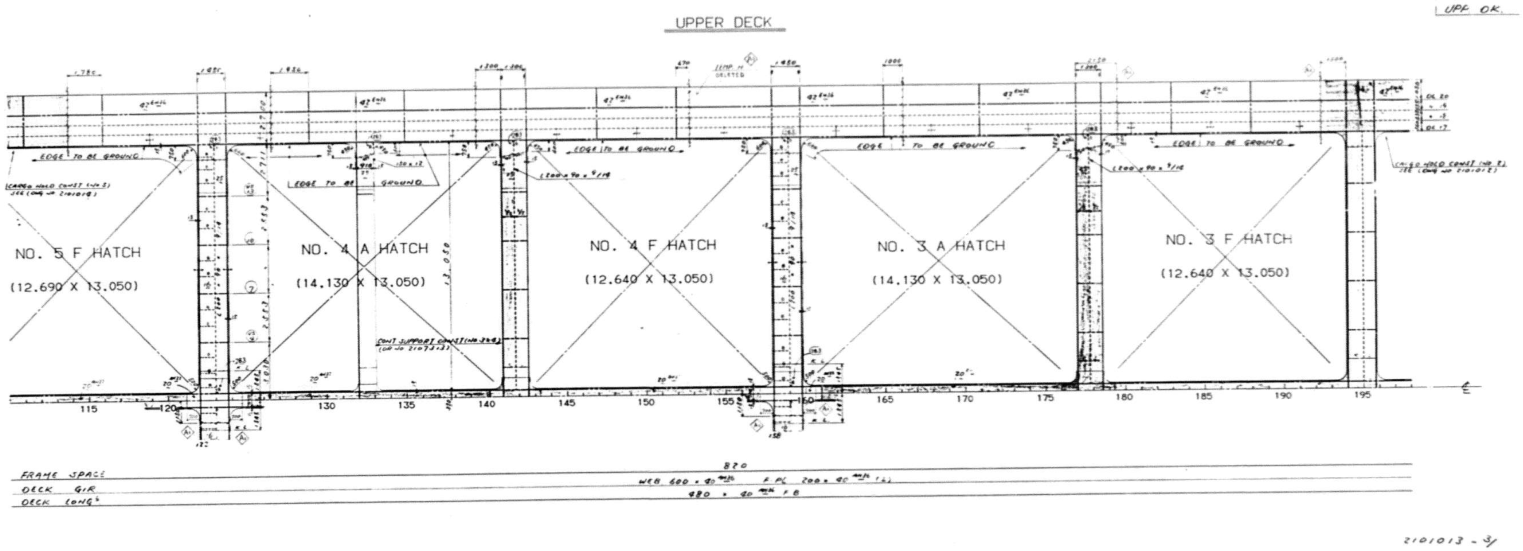
NOTES:-

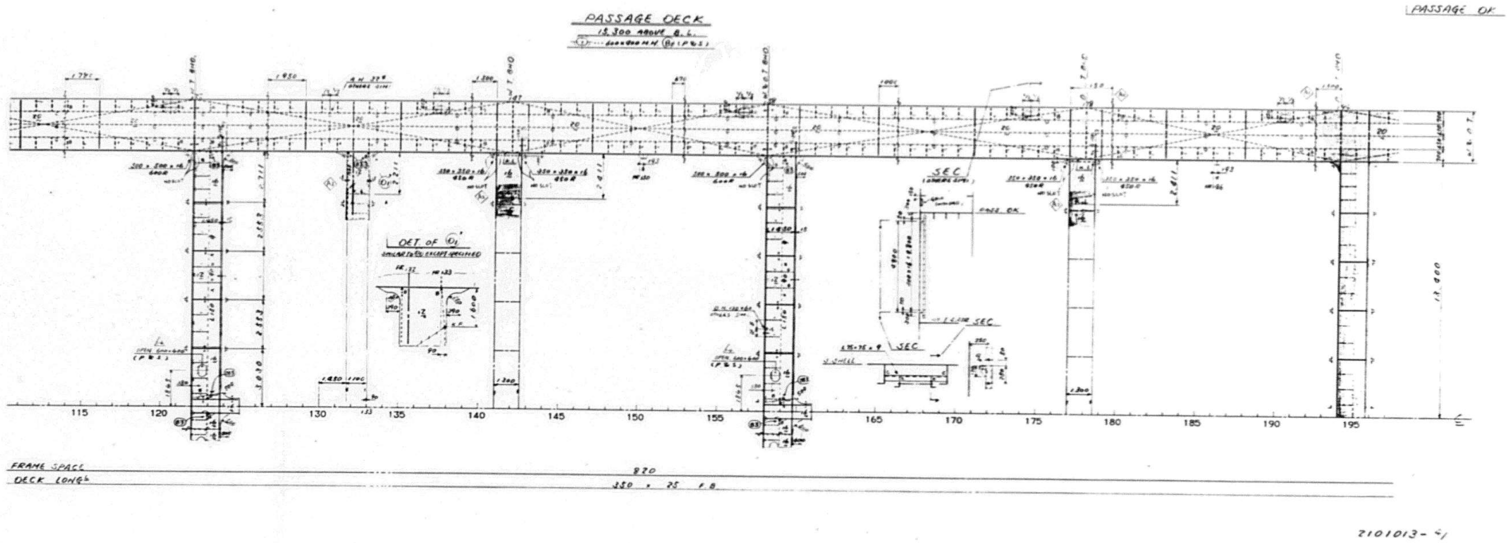
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備　考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
   '構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は
   '溶接脚長表（図番2100832）'を参照のこと。

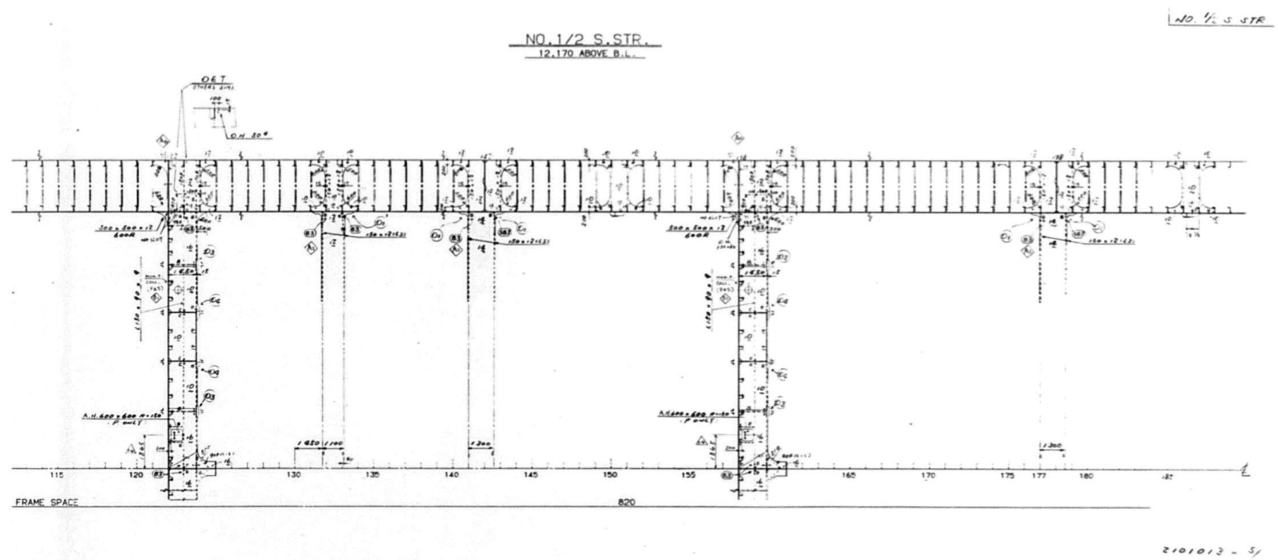
2101013-21

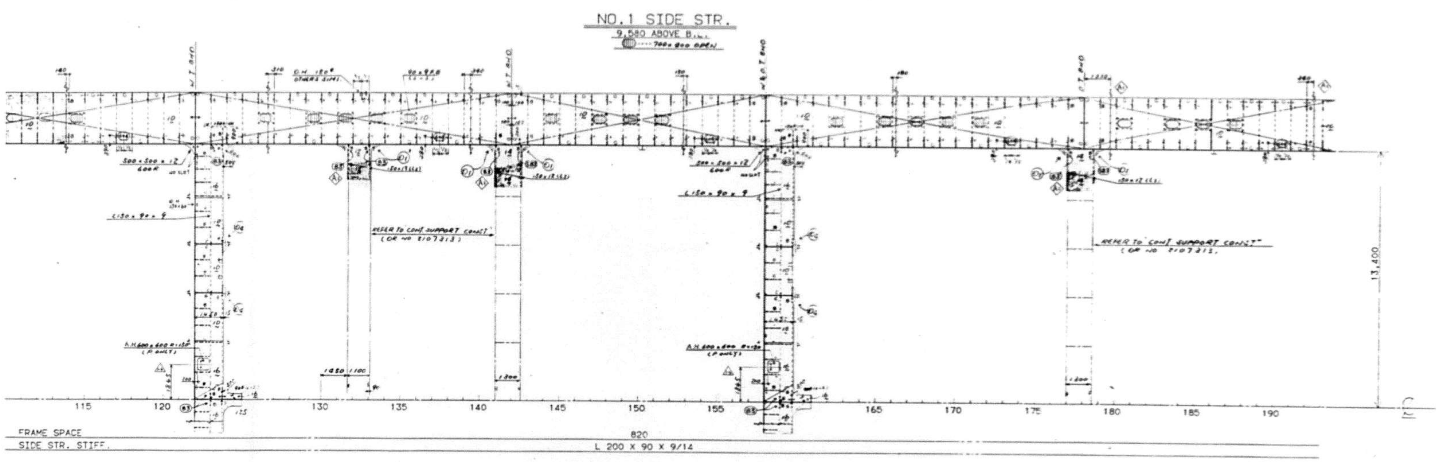

UPPER DECK
UPP. DK.
EDGE TO BE GROUND
NO. 5 F HATCH
(12.690 X 13.050)
NO. 4 A HATCH
(14.130 X 13.050)
NO. 4 F HATCH
(12.640 X 13.050)
NO. 3 A HATCH
(14.130 X 13.050)
NO. 3 F HATCH
(12.640 X 13.050)
115
120
130
135
140
145
150
155
160
165
170
175
180
185
190
195
FRAME SPACE
DECK GIR
DECK LONG'L
820
2101013 - 3/



PASSAGE DECK
PASSAGE DK
SEC
FRAME SPACE
DECK LONG'L
820
2101013-41

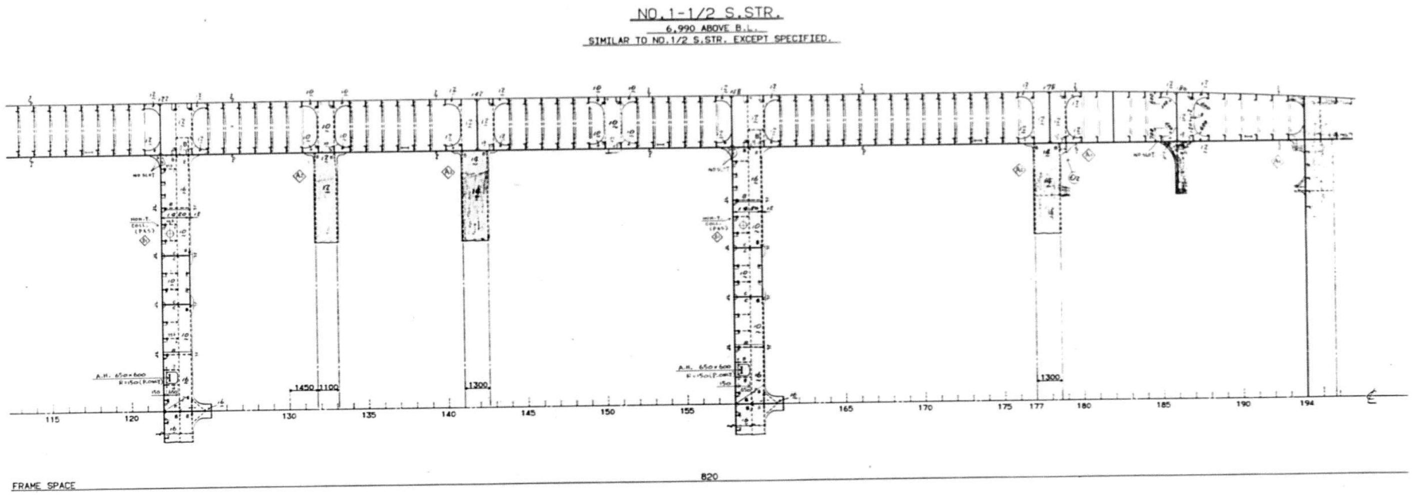
240


NO. 1/2 S.STR.
12,170 ABOVE B.L.
NO. 1/2 S. STR
FRAME SPACE
820
2101013 - S1

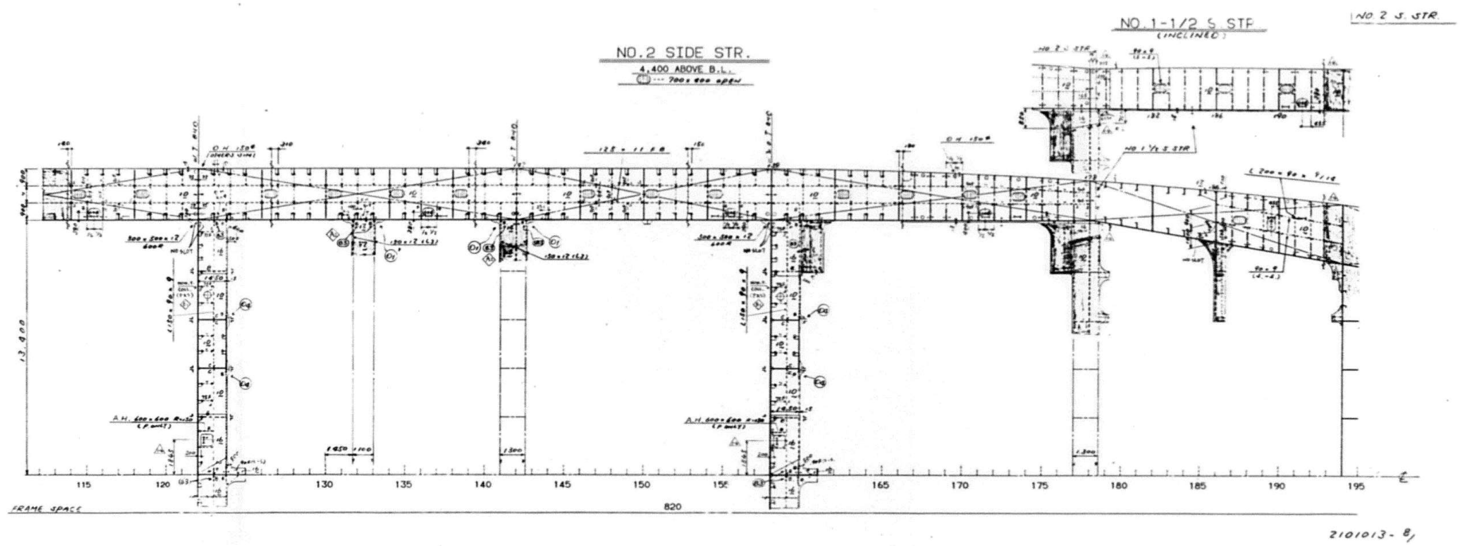

NO.1 SIDE STR.
9,580 ABOVE B.L.
REFER TO CONT SUPPORT CONST
13,400
115
120
130
135
140
145
150
155
165
170
175
180
185
190
FRAME SPACE
820
SIDE STR. STIFF.
L 200 X 90 X 9/14

2101013-6/

NO.1-1/2 S.STR.

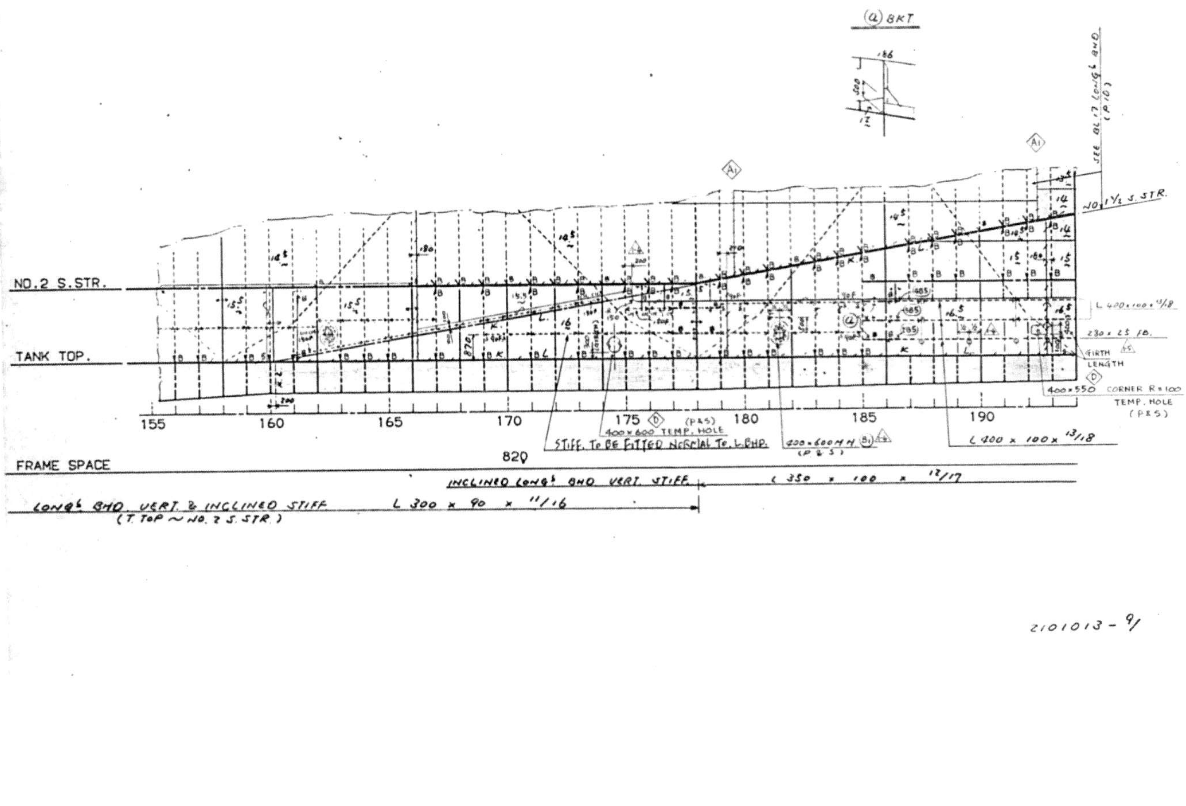


2101013- 7

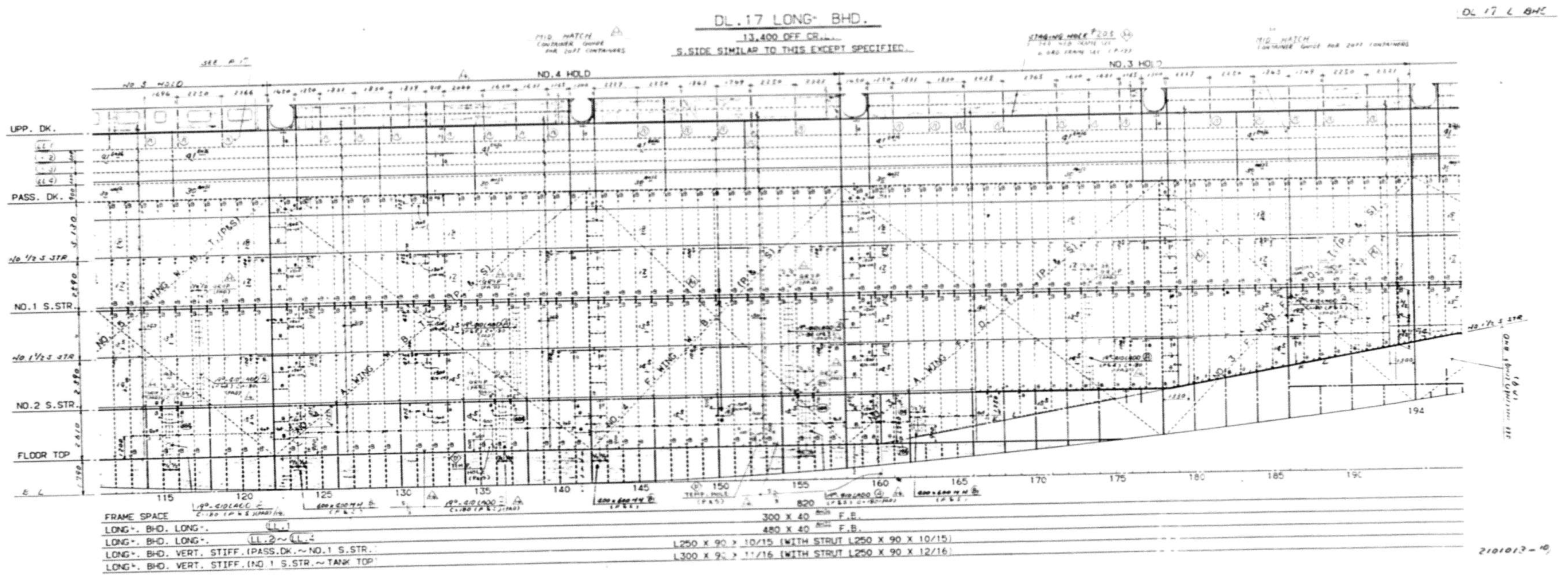

NO.2 SIDE STR.
4,400 ABOVE B.L.
NO.1-1/2 S STR
(INCLINED)
NO.2 S. STR
FRAME SPACE
820
115
120
130
135
140
145
150
155
165
170
175
180
185
190
195
2101013-8/

INCLINED L. BHD.

INCLINED LONG^L BHD.

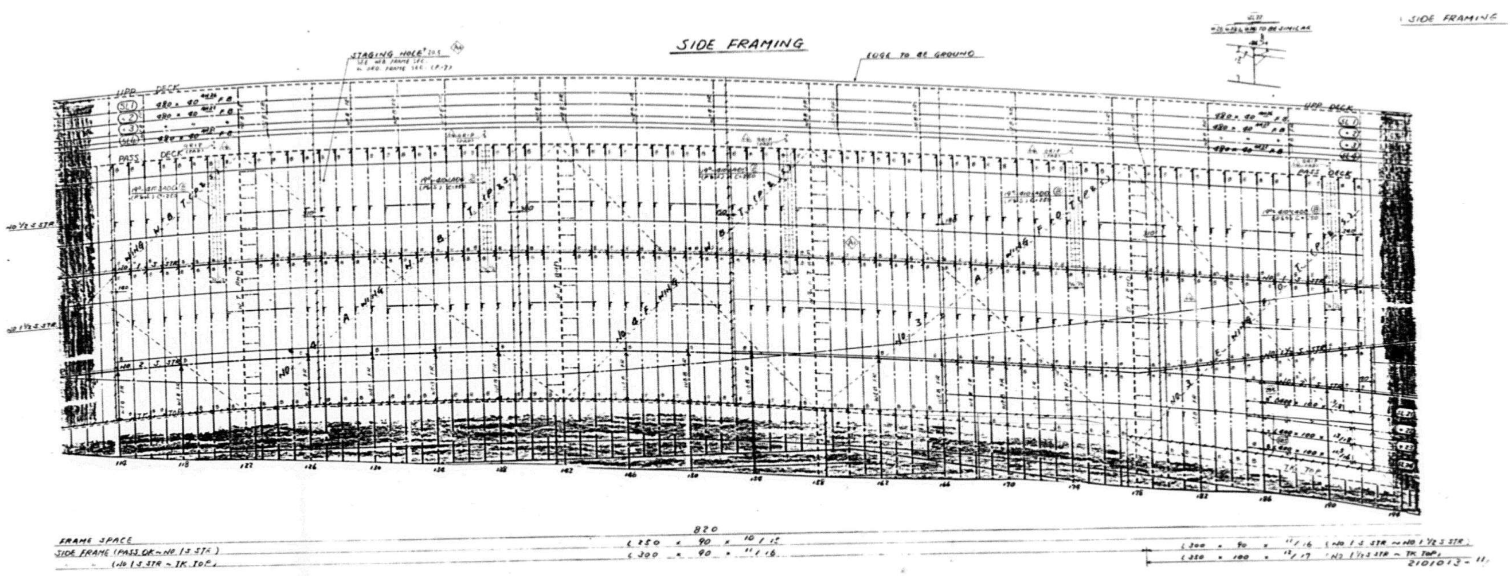


2101013-9/



DL.17 LONG- BHD.
13,400 OFF CL.
S.SIDE SIMILAR TO THIS EXCEPT SPECIFIED
DL 17 L BHD
NO.4 HOLD
NO.3 HOLD
UPP. DK.
PASS. DK.
NO.1 S.STR.
NO.2 S.STR.
FLOOR TOP
FRAME SPACE
LONG'. BHD. LONG'.
LONG'. BHD. LONG'.
LONG'. BHD. VERT. STIFF. (PASS.DK.~NO.1 S.STR.
LONG'. BHD. VERT. STIFF. (NO.1 S.STR.~TANK TOP
300 X 40 F.B.
480 X 40 F.B.
L250 X 90 X 10/15 (WITH STRUT L250 X 90 X 10/15)
L300 X 90 X 11/16 (WITH STRUT L250 X 90 X 12/16)
820

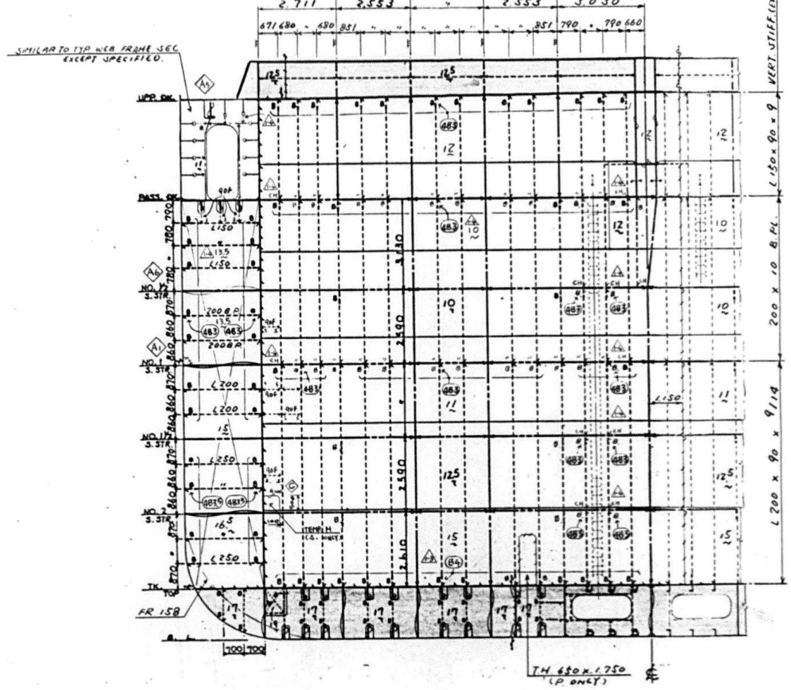
246


SIDE FRAMING
EDGE TO BE GROUND
FRAME SPACE
SIDE FRAME (PASS DK ~ NO 1 S STR)
820
2101013-11

247

FR. 122 W.T. BHD.

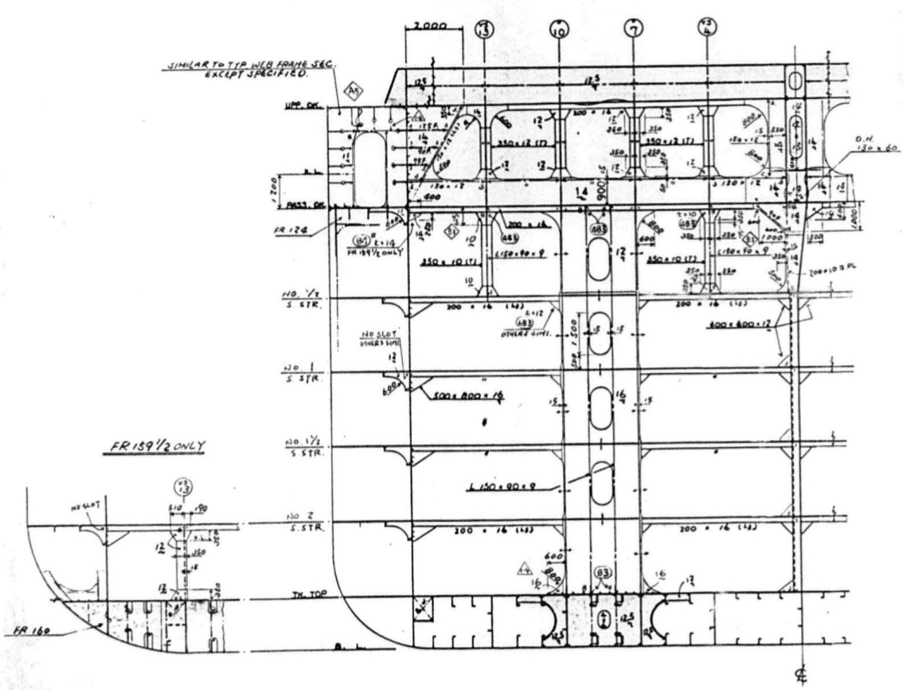
FR. 158 TO BE SIMILAR EXCEPT SPECIFIED.



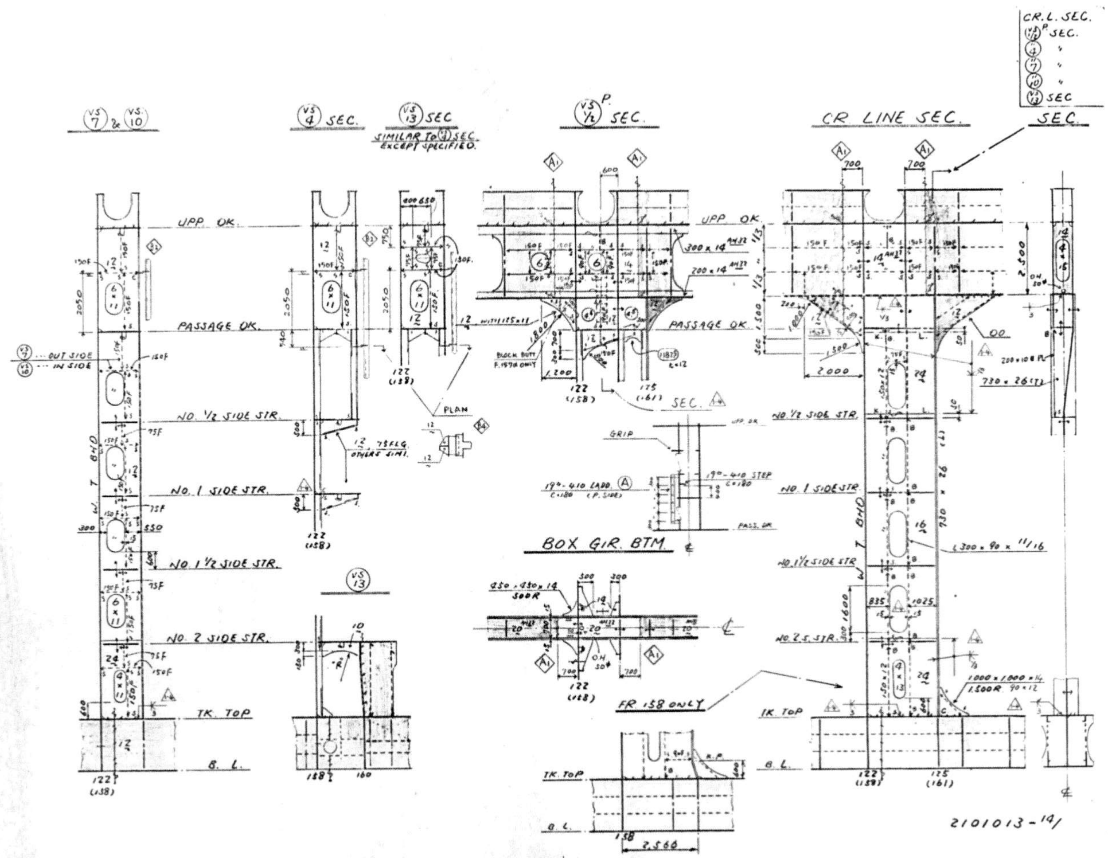
2101013 – 12/

FR. 123 1/2

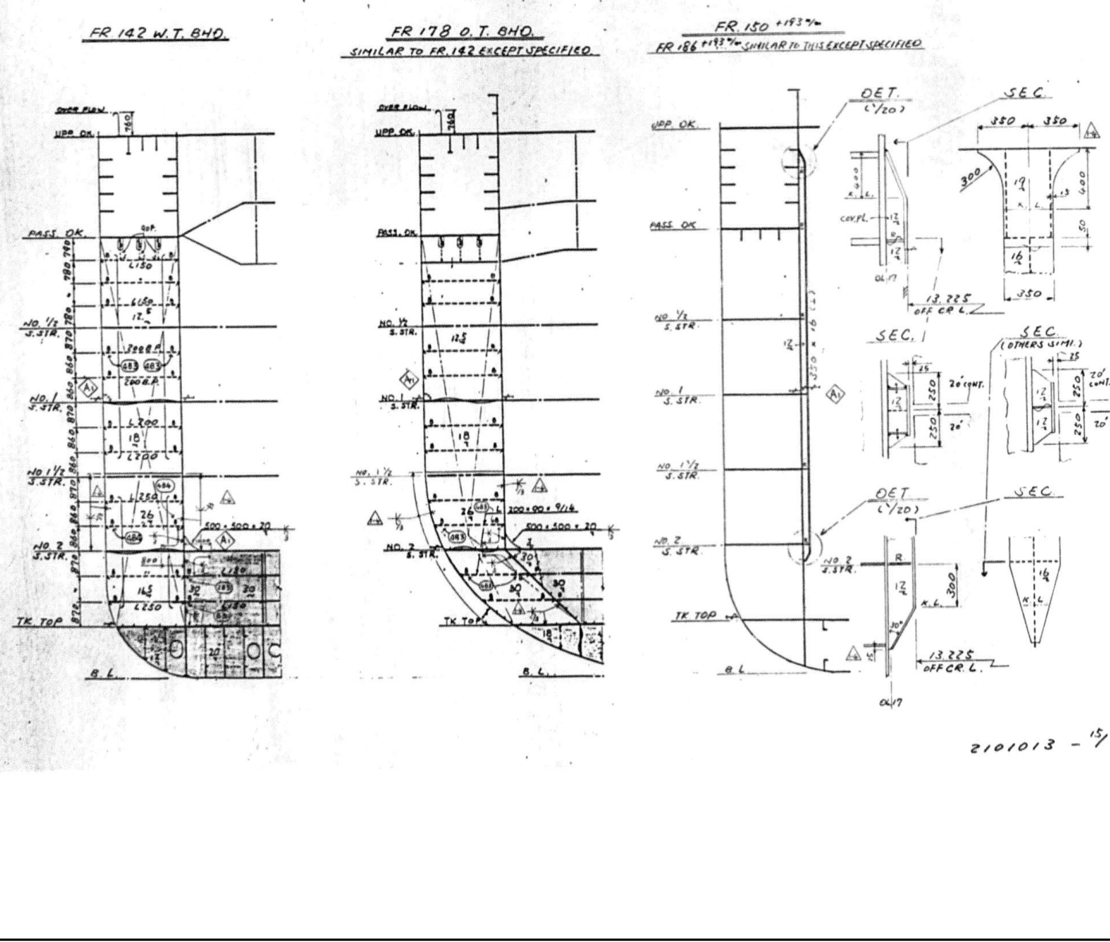
FR. 159 1/2 TO BE SIMILAR EXCEPT SPECIFIED



2101013 – 13/



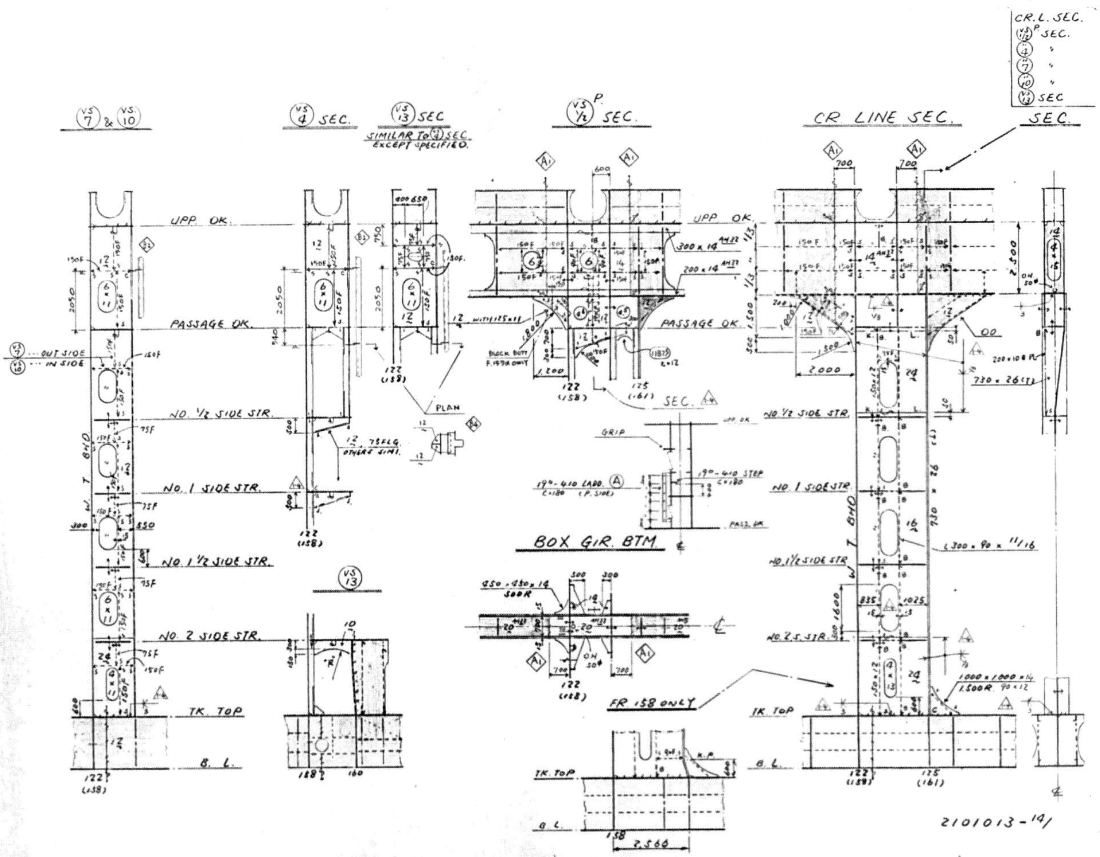
FR 142 BHD.
FR 178 BHD.



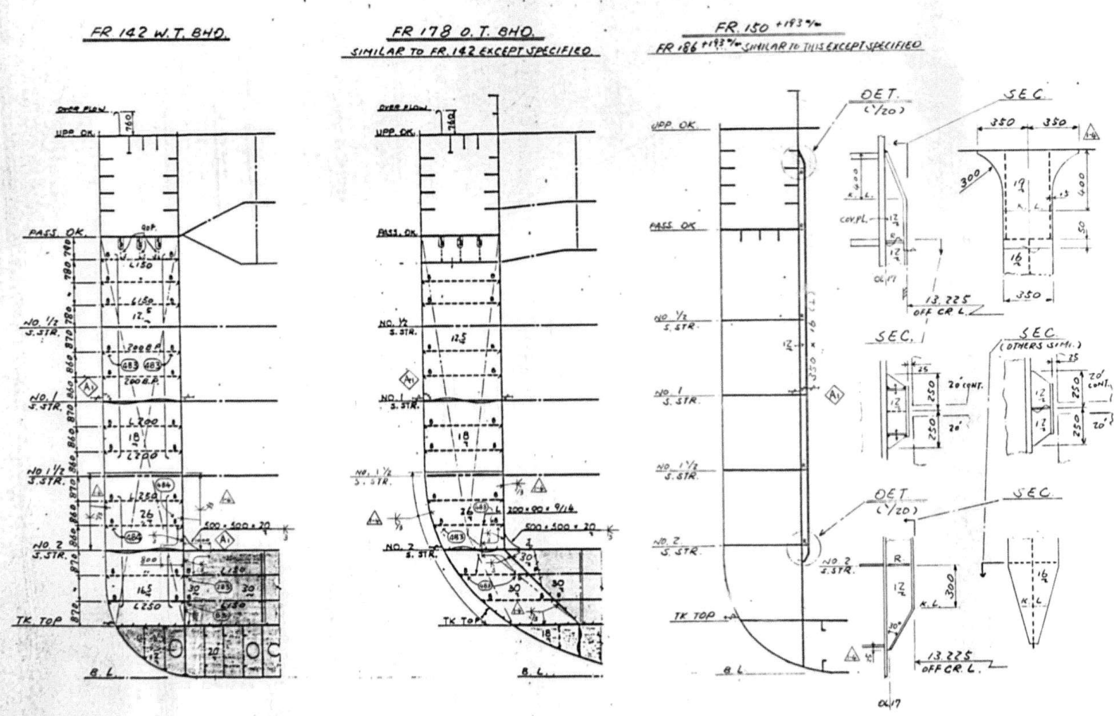
ATTENTION!

FILM NO. 248 (JUST BEFORE)

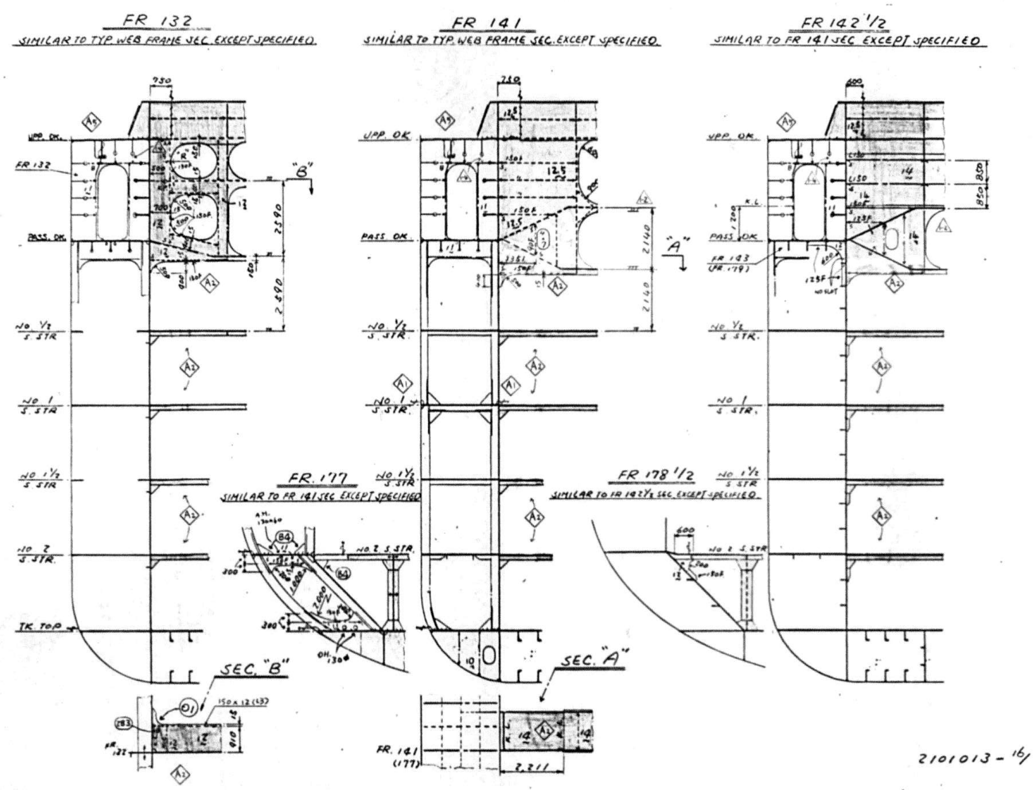
IS WRONG.



FR 142 BHD.
FR. 178 BHD.

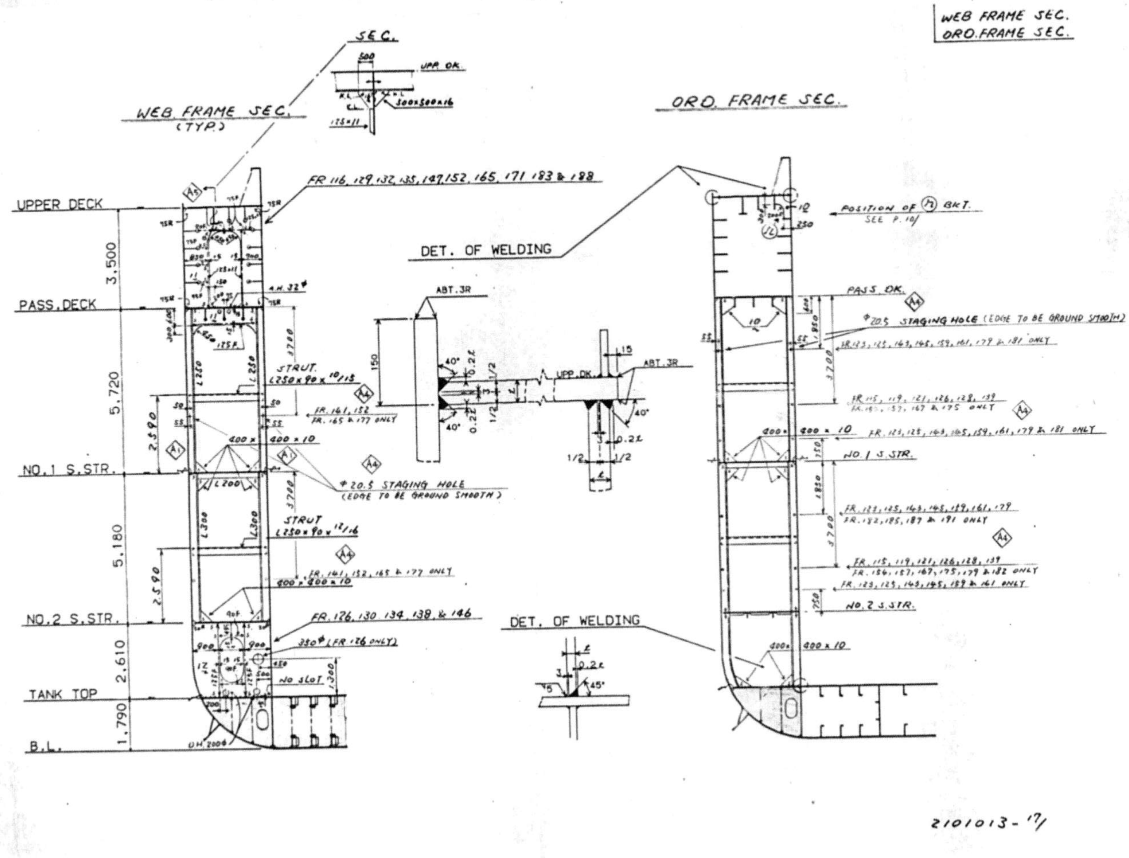


FR 132 SEC.
" 141 "
FR 142½ SEC.



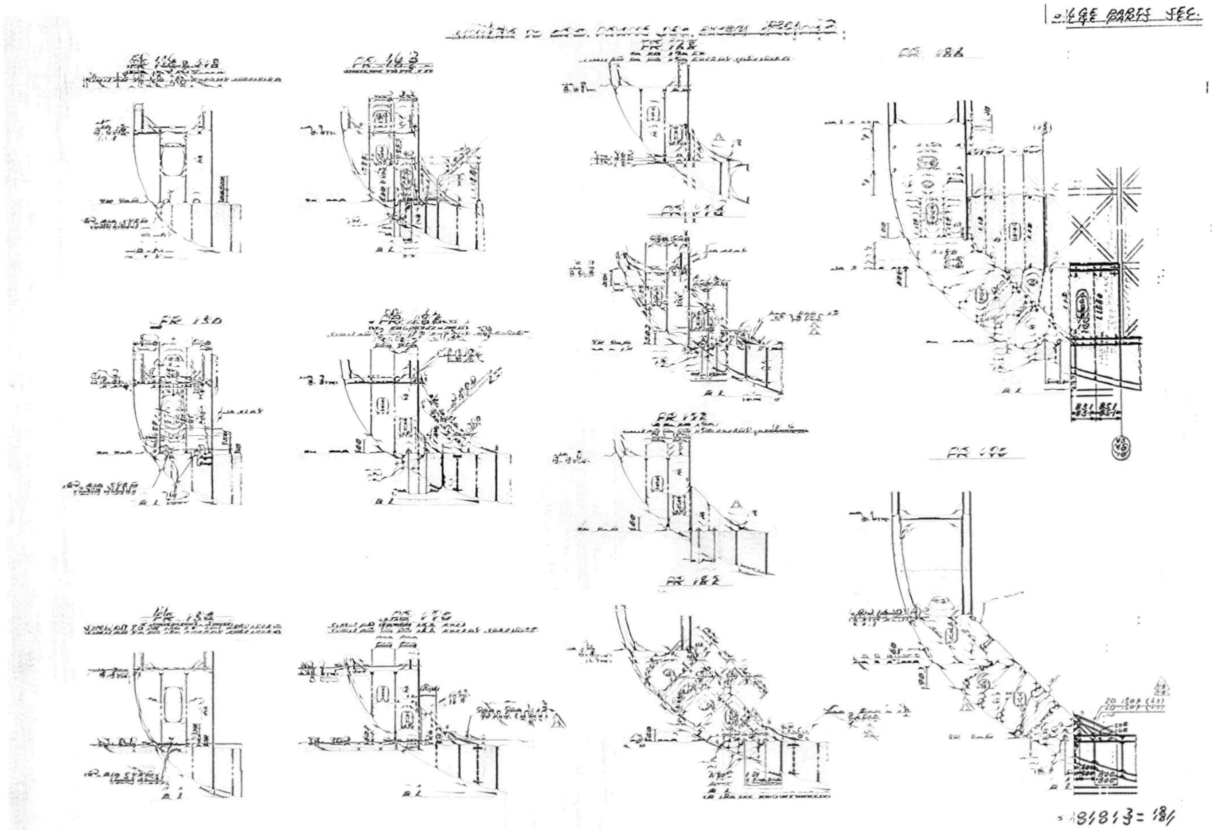
2101013-16/

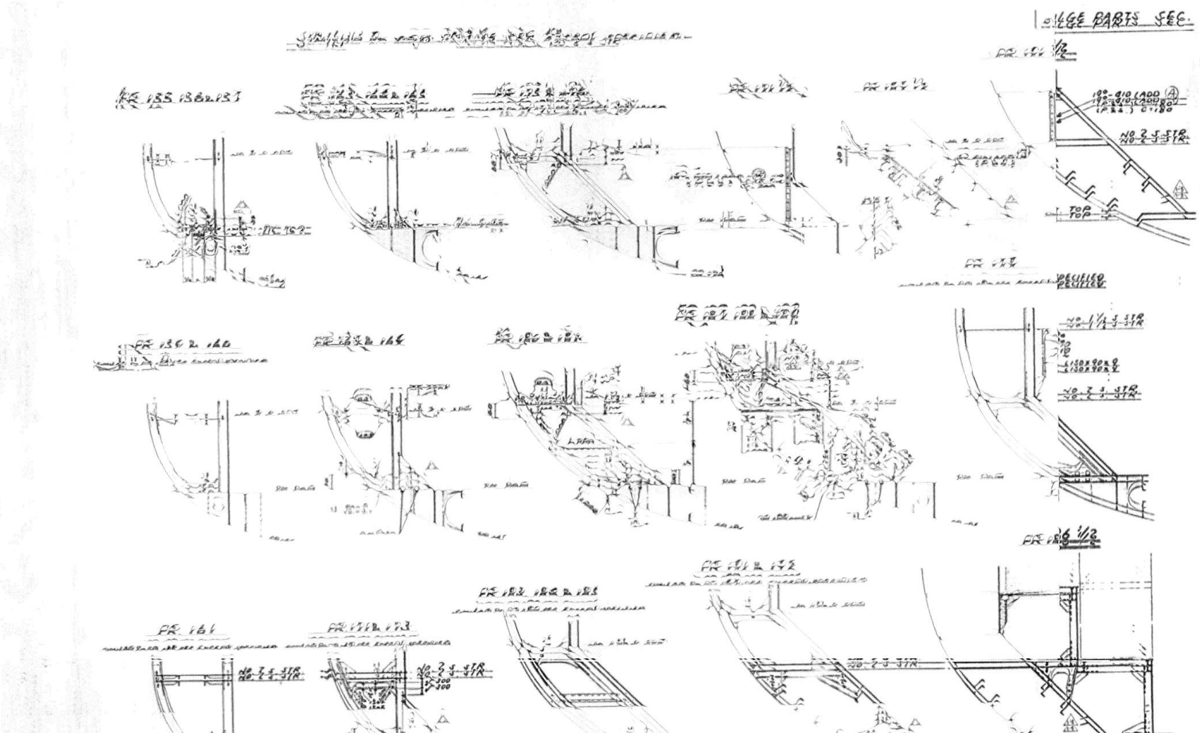
WEB FRAME SEC.
ORD. FRAME SEC.



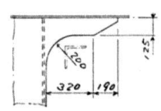
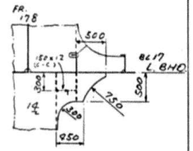
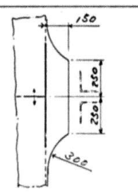
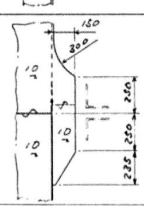
2101013-17/

250


ILGE PARTS SEC.
FR 186
FR 163
FR 180
FR 170
FR 182


ILGE PARTS SEC.
FR 161
TOP

251

MARK	DETAIL	MARK	DETAIL
D1			
D2			
D3			
D4			

2101013 - 20/20

APPROVAL OF OWNER & REGULATORY BODIES								
ALT.NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	23APR'86	OFTS/MES/324						
1ST REV	31MAY'86	OFTS/MES-501			24JUN'86	T-8-2		
1ST PART REV	21JUN'86	OFTS/MES-595			11AUG'86	T-8-2		
2ND PART REV	12JUL'86	OFTS/MES-717			30AUG'86	T-8-2		
3RD PART REV	16AUG'86	TAM/40			4OCT'86	T-8-2		
4TH PART REV	16SEP'86	TAM/74			9OCT'86	T-8-2		
5TH PART REV	4NOV'86	TAM/104			17NOV'86	T-8-2		
6TH PART REV	18DEC'86	TAM/138			20NOV'86	T-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER: I. Oishi — STRUCTURE DESIGN SEC.

SHIP'S NO.: 1325 — SHIP'S NAME: TILLIE LYKES

貨物倉構造(オ5倉)

CARGO HOLD CONSTRUCTION
(NO. 5 HOLD)

STAFF: T.E. WAKATSUKI (TEL.2230)

DATE:

JOB NO.: TS1323/24/25 — SCALE: 1/100 — LYKES REF. NO.: 110605 — MITSUI DRAWING NO.: 2101014 R

(27 SHEETS WITH COVER)

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, CHANGED AS FOLLOWS.	
		△1 MISCELLANEOUS REVISION. (FOR DRAINAGE) MADE APPLICABLE TO S.NO.1324 AND S.NO.1325.	NOV. 28.'86
		△2 TO PROVIDE THE DUCT SPACE SEPARATEY IN FR.83~84 COFF. MADE APPLICABLE TO S.NO.1325."	

DWG.NO. 2101014-1/

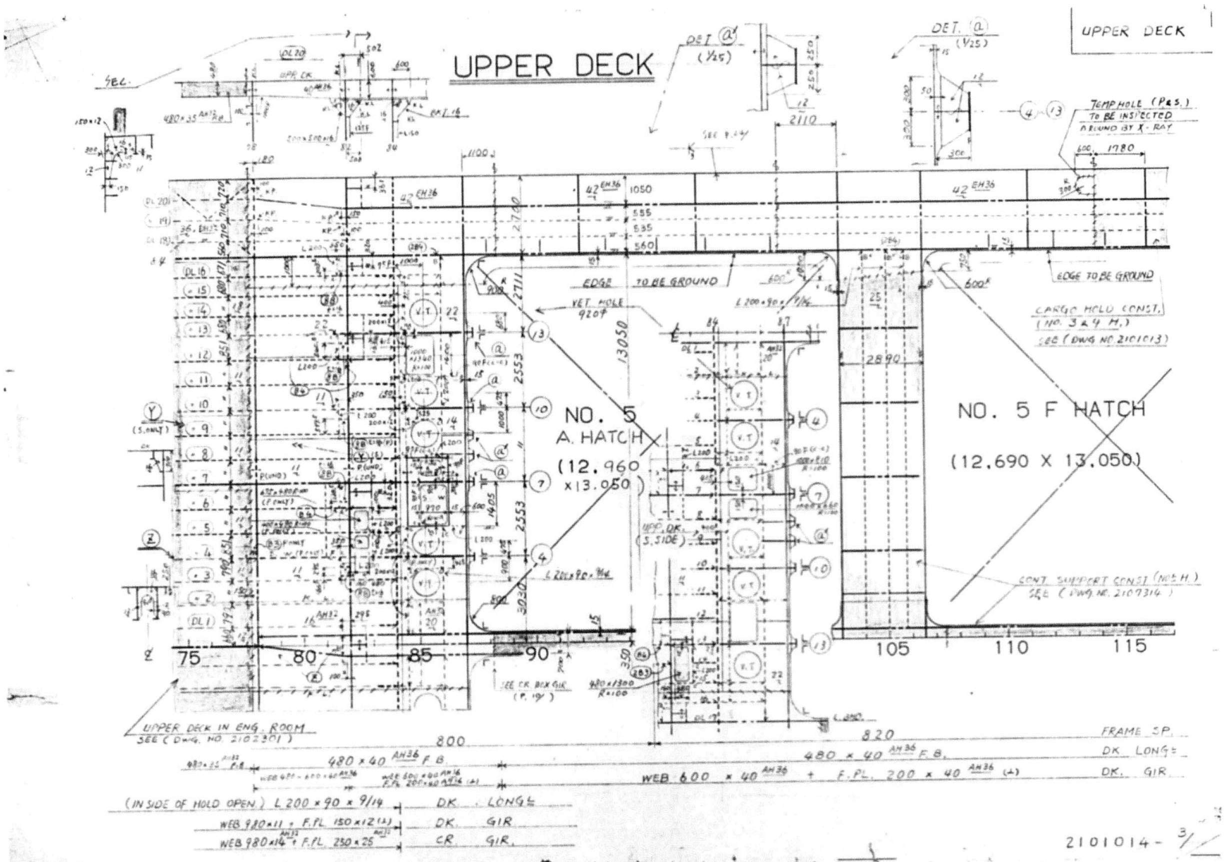
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

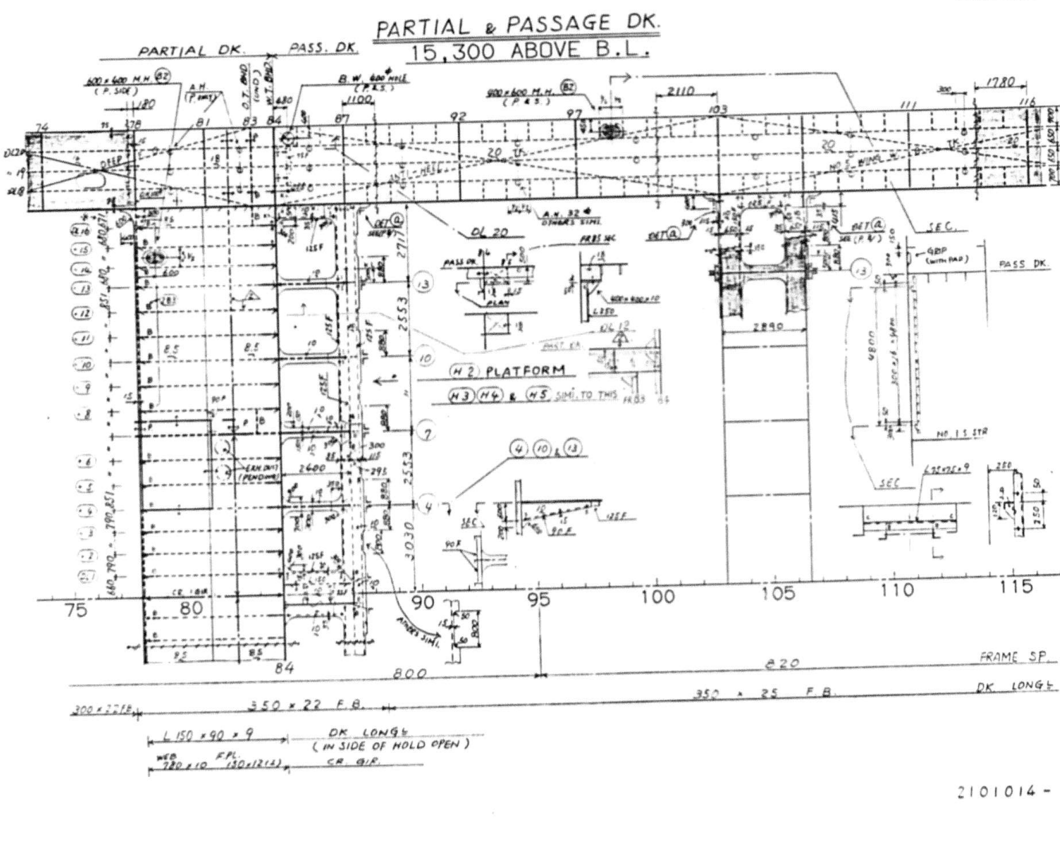
備　考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
   "構造詳細図(図番2100811)"を参照のこと。
4. 溶接脚長については，特記の他は
   "溶接脚長表(図番2100832)"を参照のこと。

2101014-2/

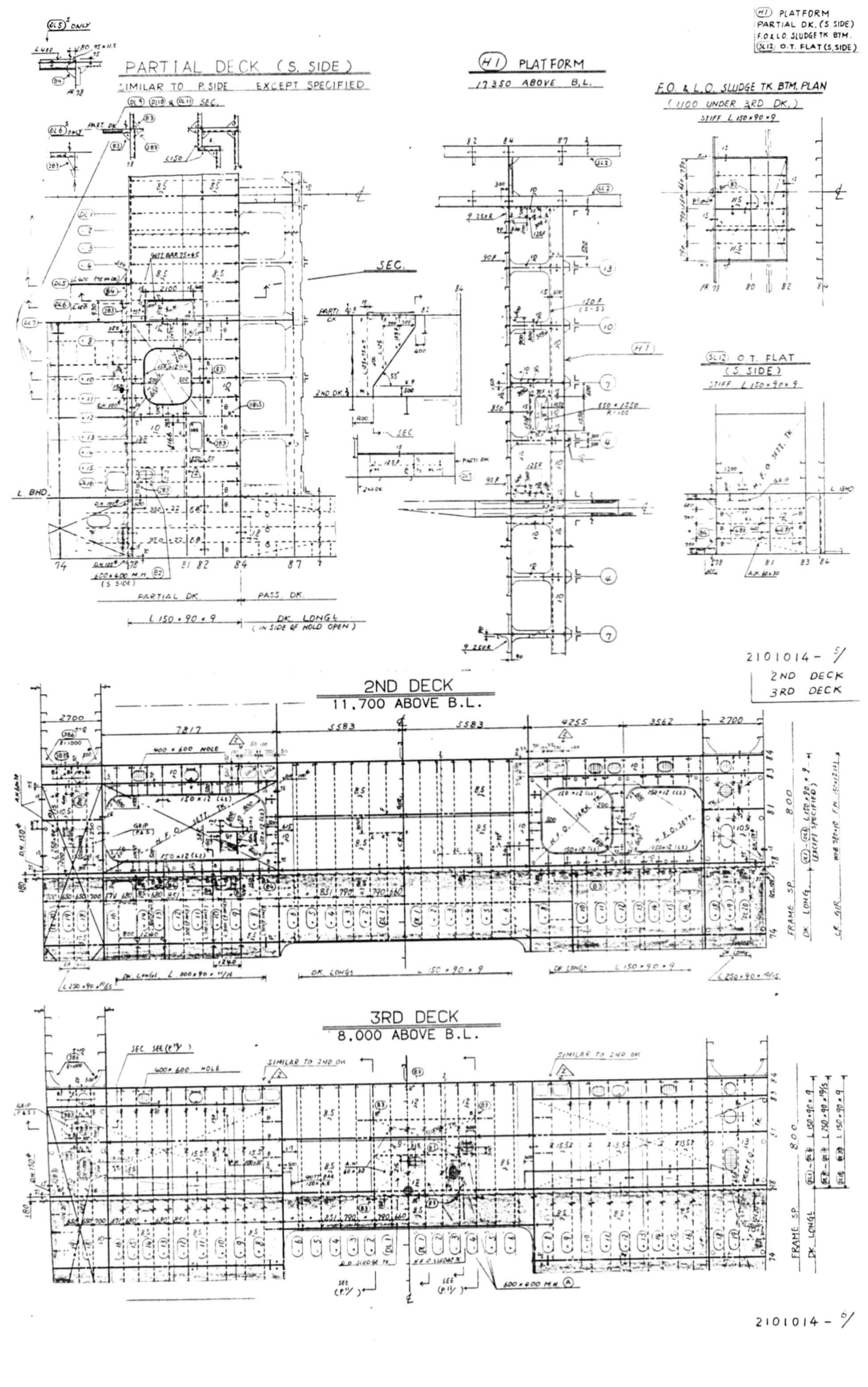


2101014- 3/



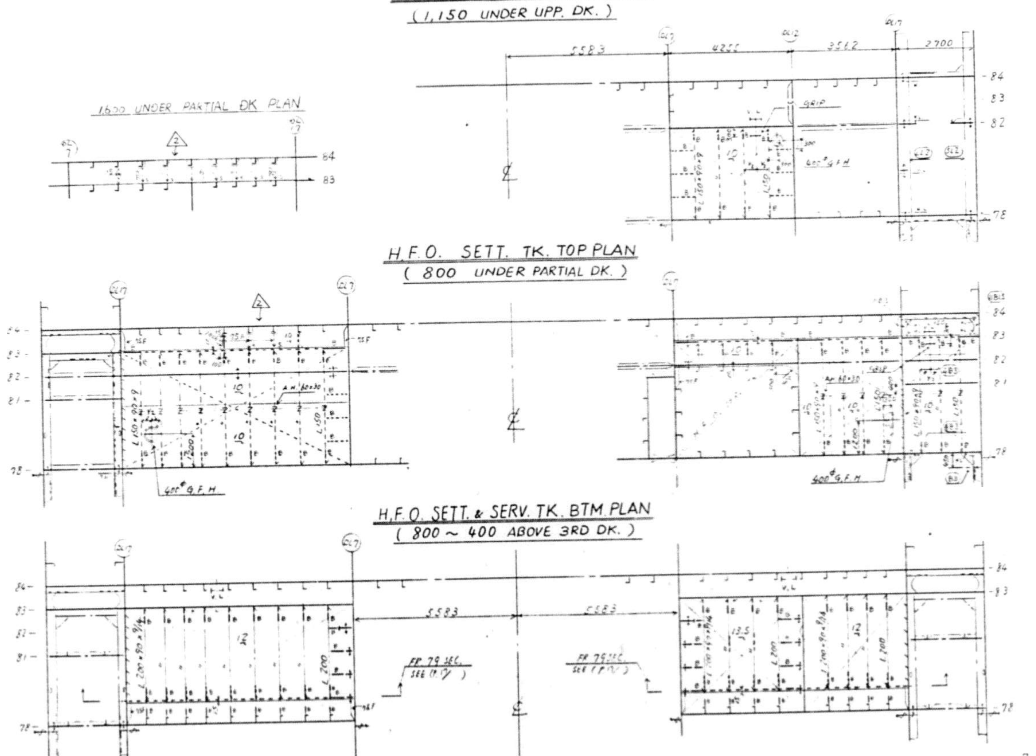
2101014- 4/

254



(H1) PLATFORM
PARTIAL DK. (S SIDE)
F.O.& L.O. SLUDGE TK BTM.
(SL12) O.T. FLAT (S.SIDE)
PARTIAL DECK (S. SIDE)
SIMILAR TO P.SIDE EXCEPT SPECIFIED
(H1) PLATFORM
17350 ABOVE B.L.
F.O. & L.O. SLUDGE TK BTM. PLAN
(1100 UNDER 3RD DK.)
STIFF L 150×90×9
(SL12) O.T. FLAT
(S SIDE)
STIFF L 150×90×9
SEC.
L. BHD.
PARTIAL DK.
PASS. DK.
L 150×90×9
DK LONGL
(IN SIDE OF HOLD OPEN)
2101014-5/
2ND DECK
3RD DECK
2ND DECK
11,700 ABOVE B.L.
400×600 HOLE
FRAME SP.
DK LONGL
CL GIR
3RD DECK
8,000 ABOVE B.L.
SIMILAR TO 2ND DK
400×600 HOLE
600×600 M.H.
FRAME SP.
DK LONGL
2101014-6/

TK. TOP & BTM. PLAN

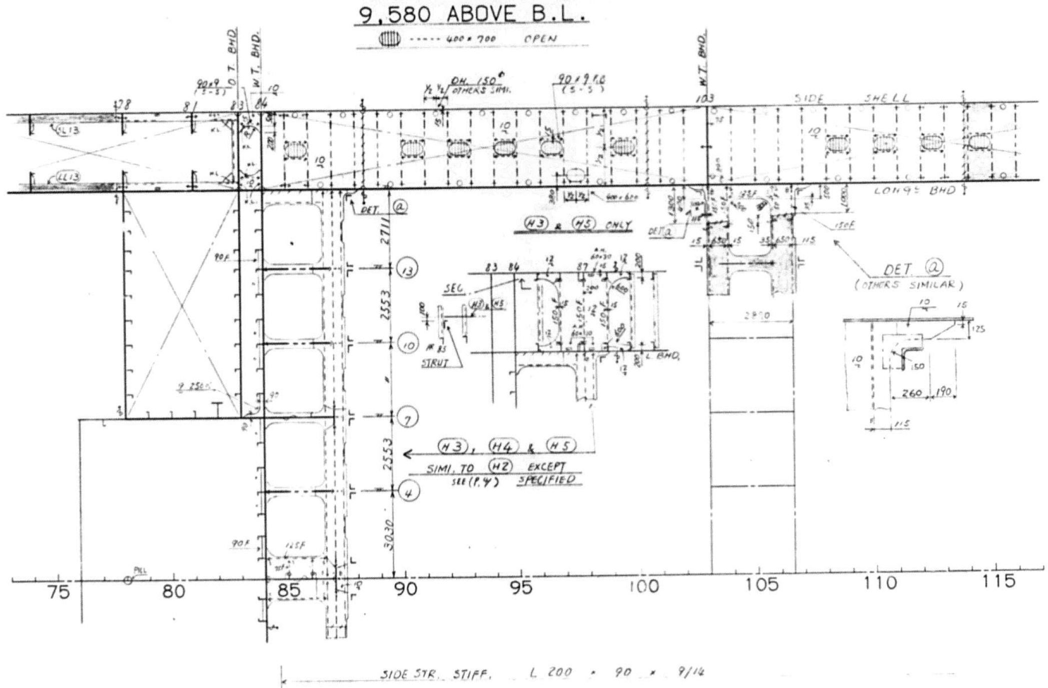


2101014- 7/

NO. 1 SIDE GIR.
(9,580 ABOVE B.L.)

NO.1 SIDE STR.

9,580 ABOVE B.L.

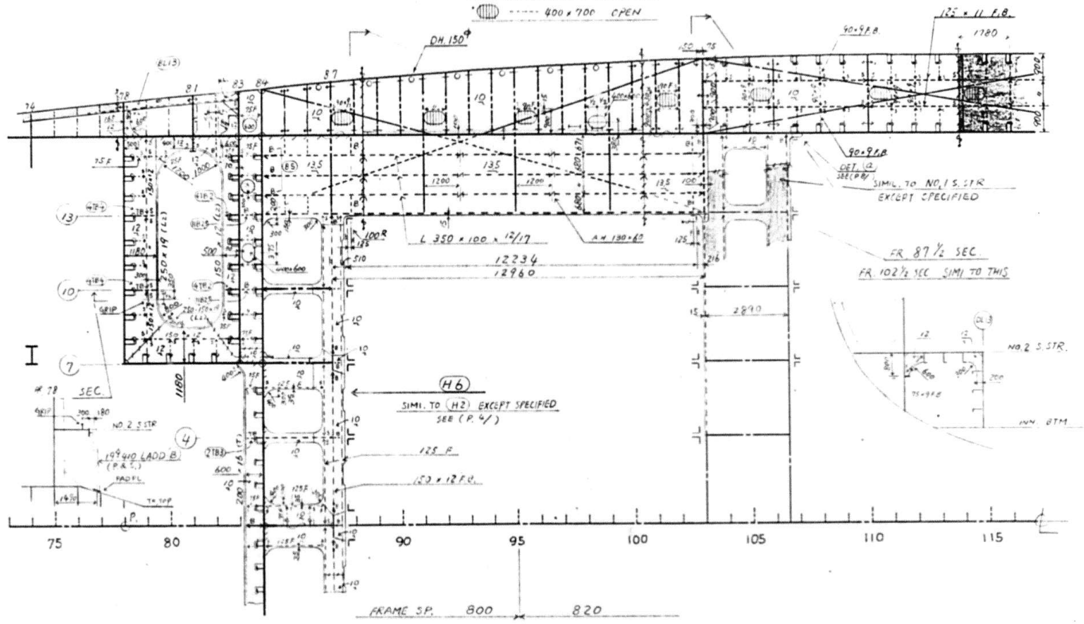


2101014- 8/

256

NO.2 SIDE STR.

4,400 ABOVE B.L.



2101014 – 9/

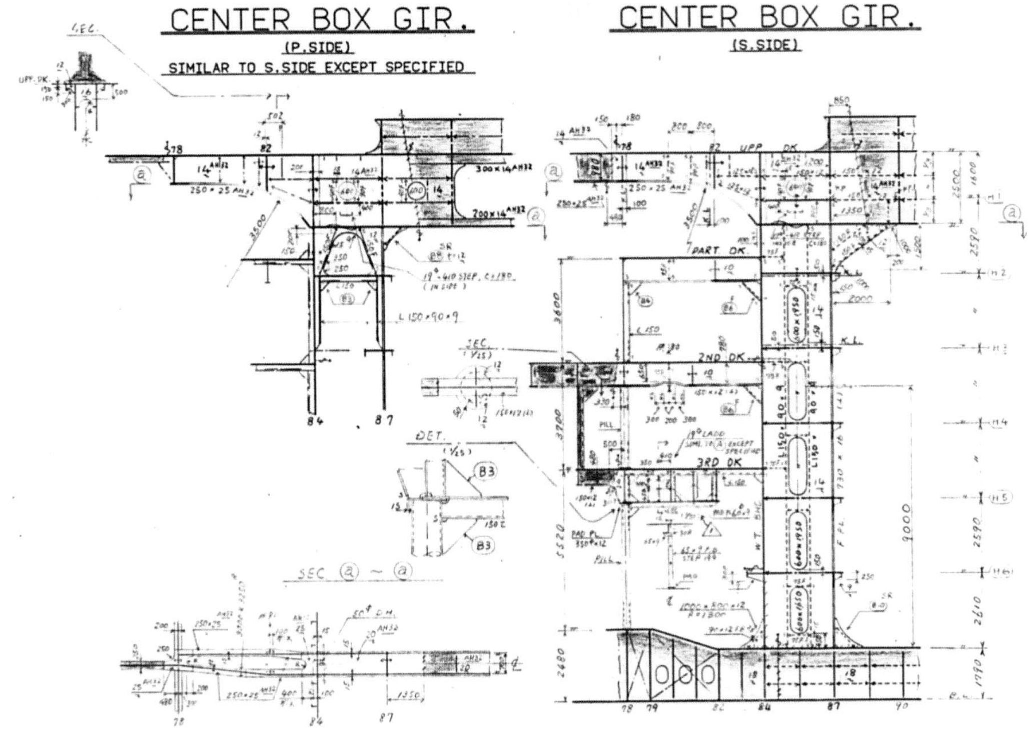
CENTER BOX GIR.

(P. SIDE)

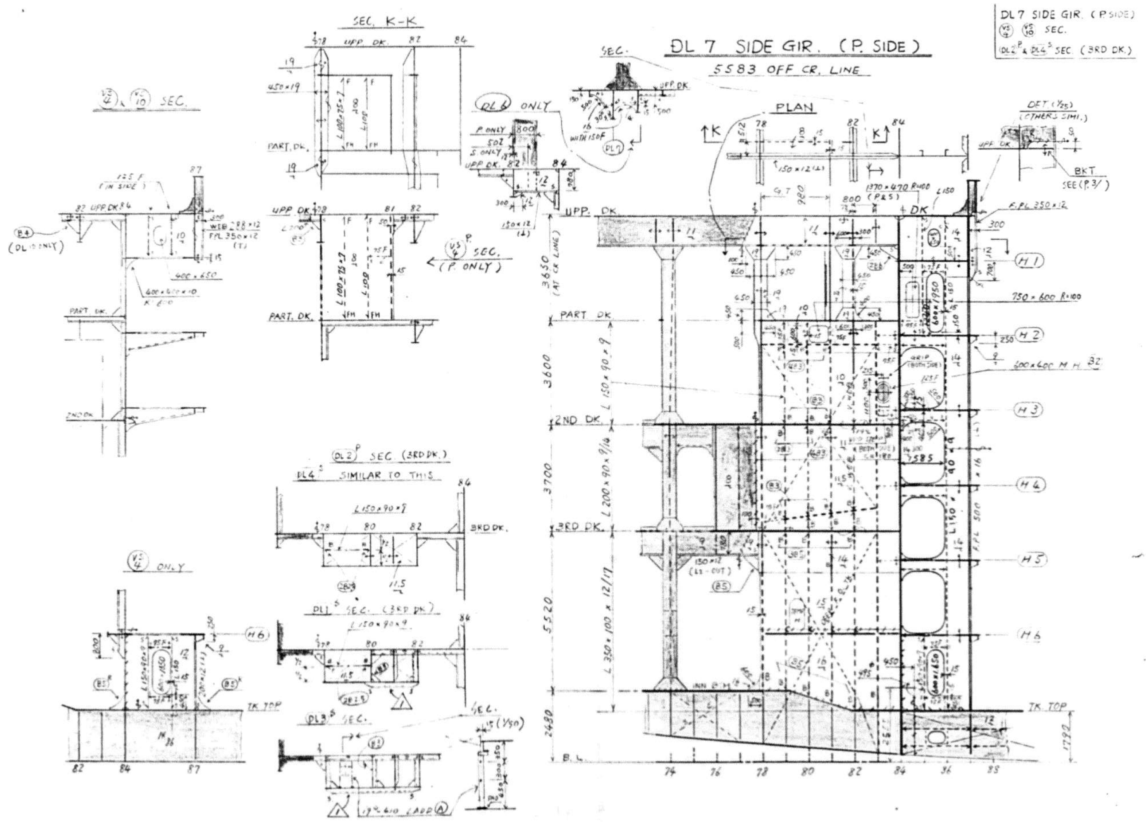
SIMILAR TO S.SIDE EXCEPT SPECIFIED

CENTER BOX GIR.

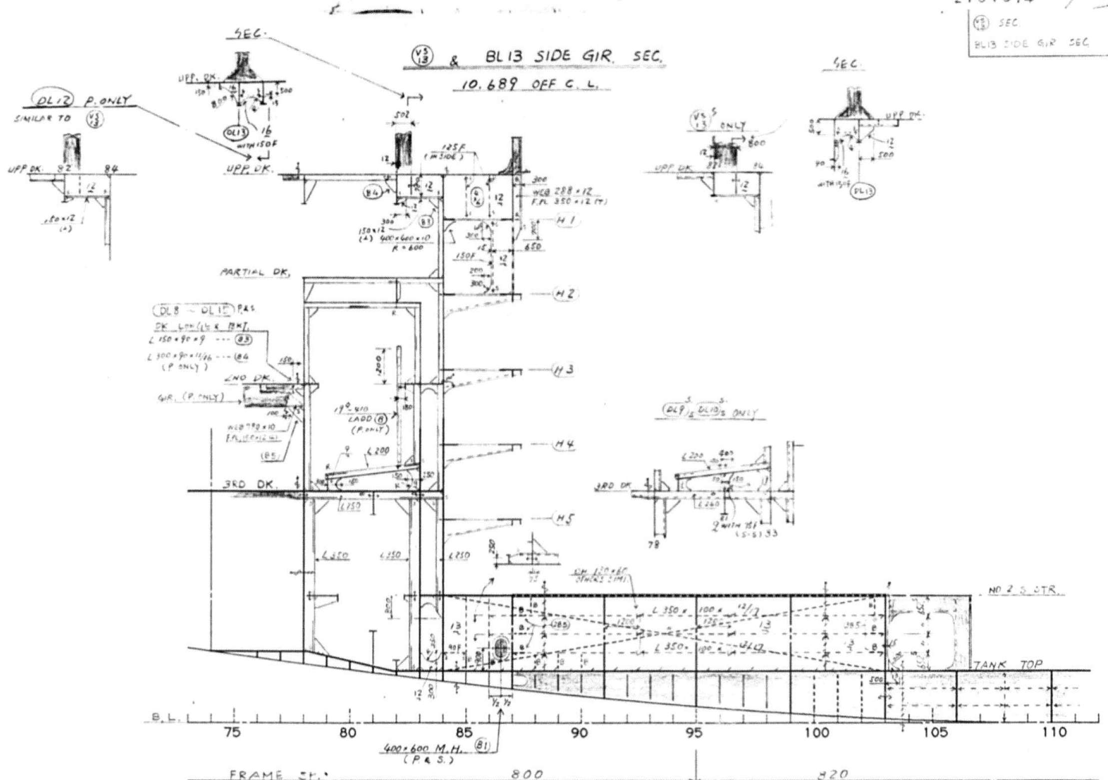
(S. SIDE)



2101014 – 10/

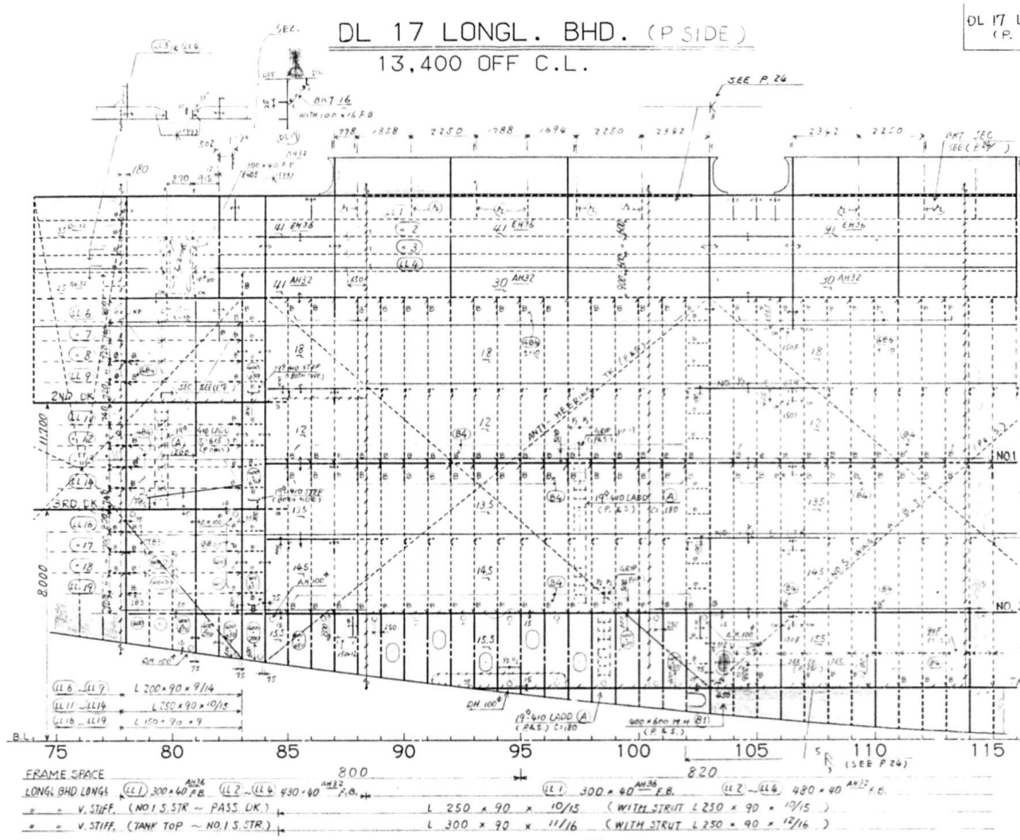


2101014 - 11/



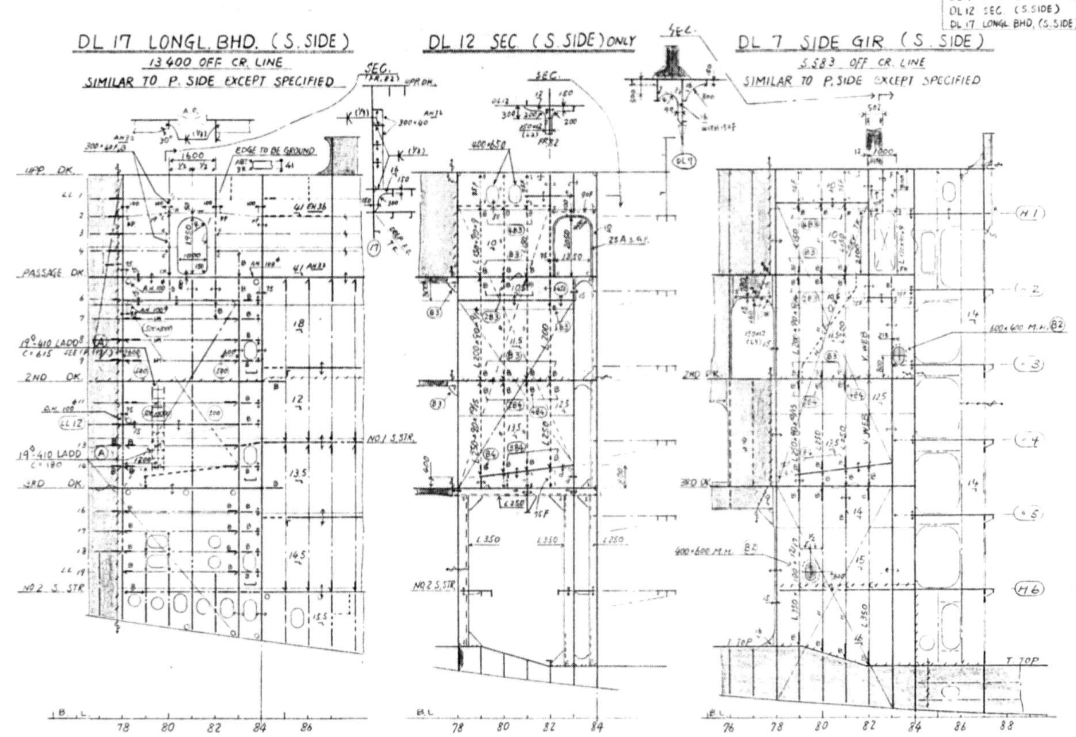
2101014 - 12/

DL 17 LONGL BHD.
(P. SIDE)

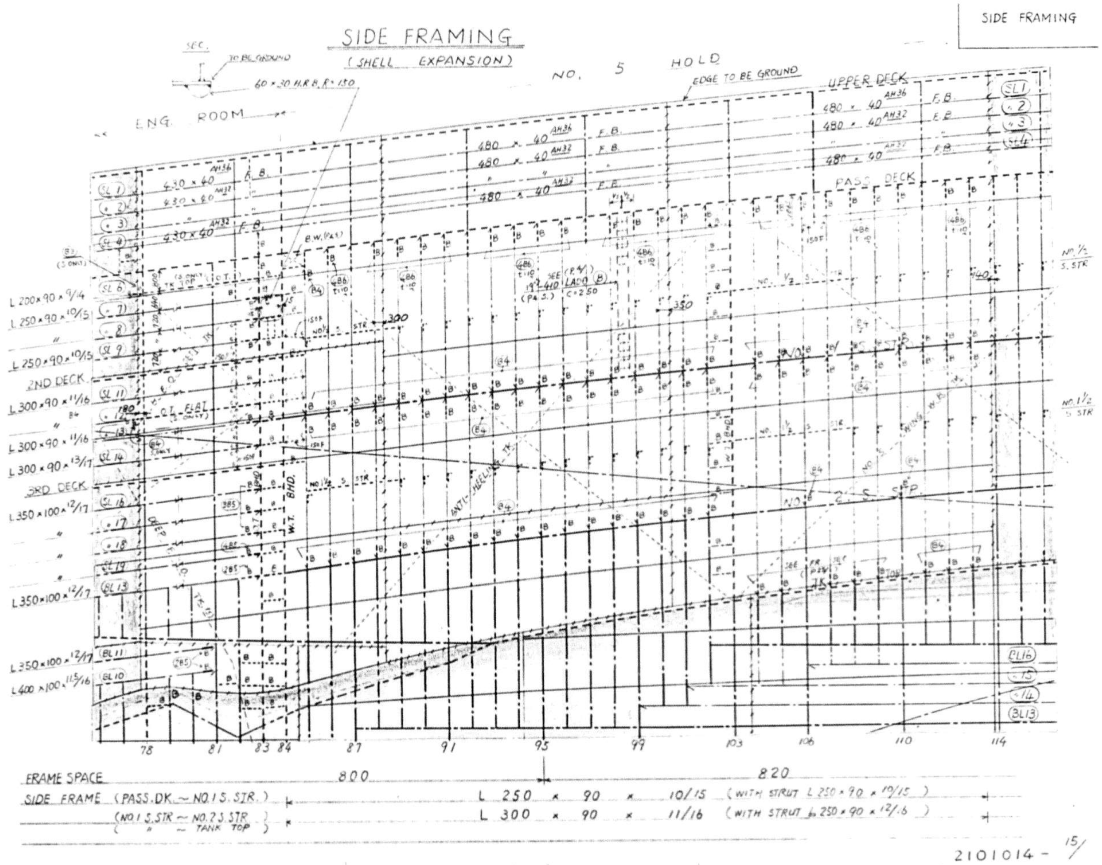


2101014-13

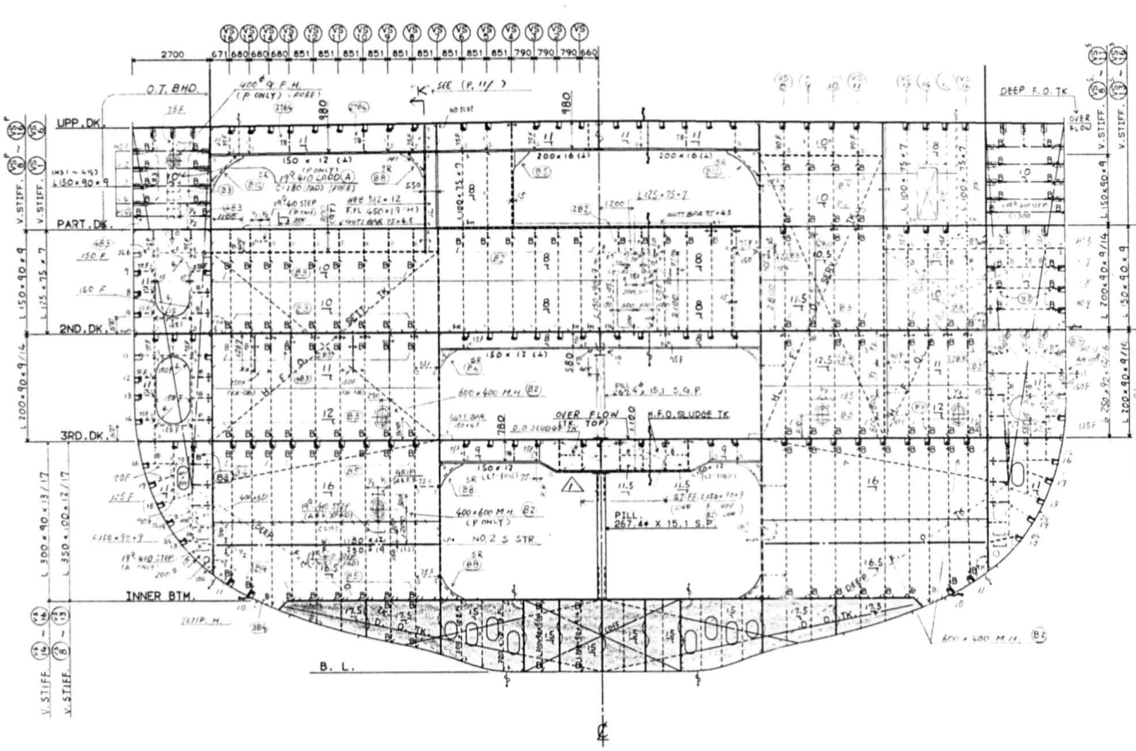
DL 7 SIDE GIR. (S.SIDE)
DL 12 SEC (S.SIDE)
DL 17 LONGL BHD. (S.SIDE)



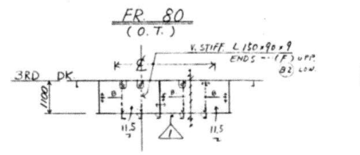
2101014-14

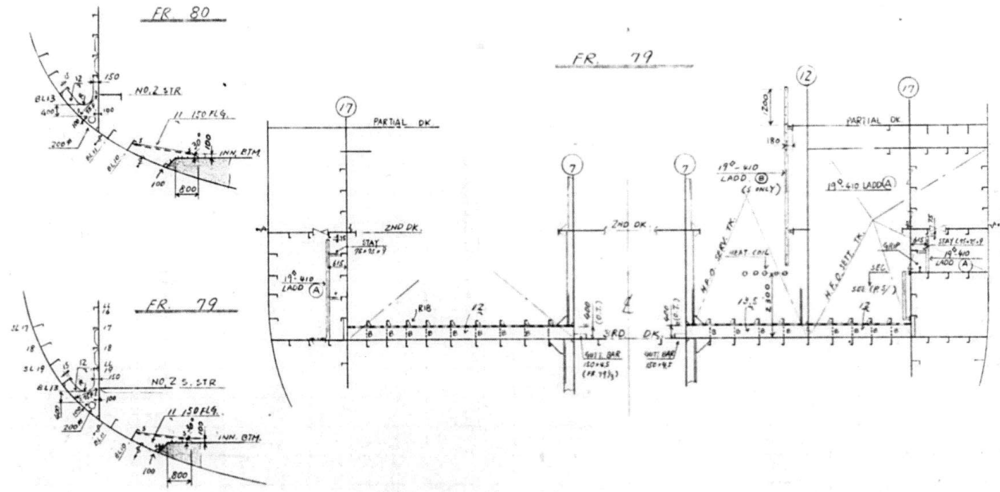

SIDE FRAMING
(SHELL EXPANSION)
NO. 5 HOLD
FRAME SPACE
SIDE FRAME
2101014- 15/

FR. 78


2101014- 16/

FR.79 . 80 SEC.

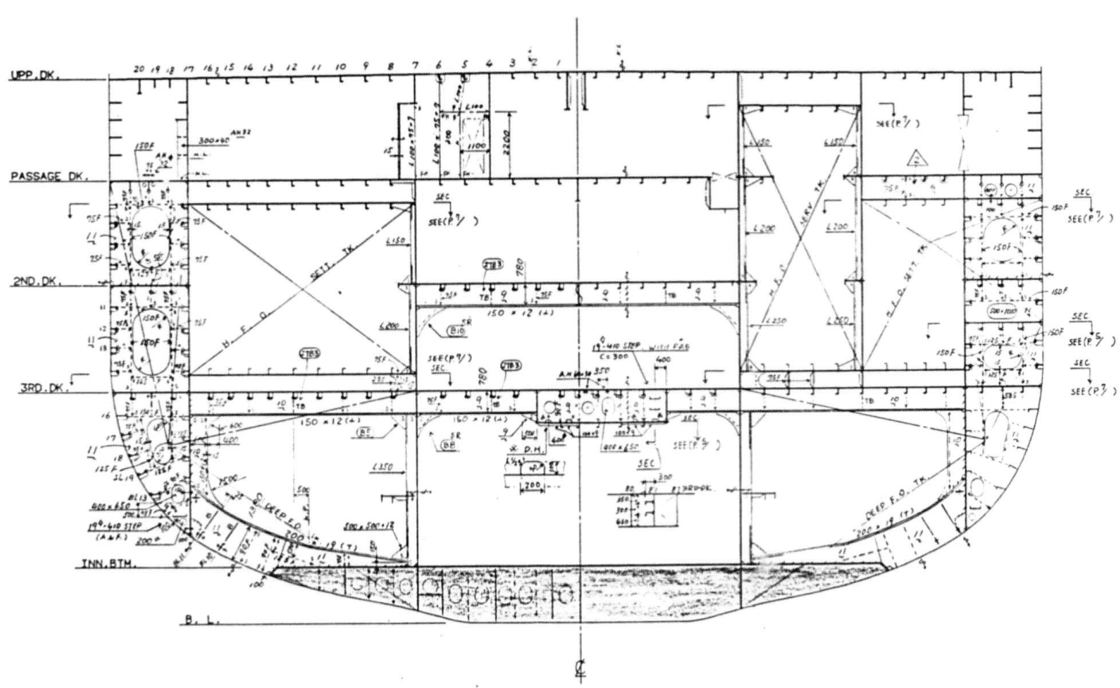




2101014 - 17/

FR. 81

FR.81

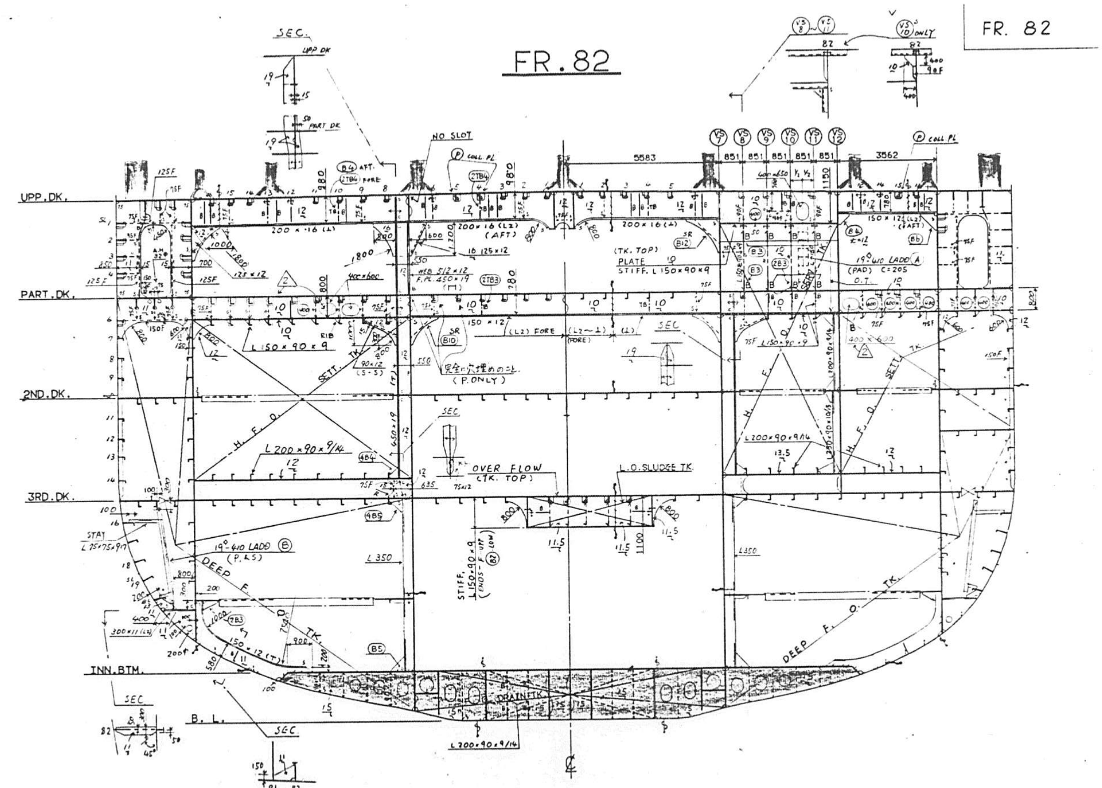


2101014 - 18/

261

FR. 82

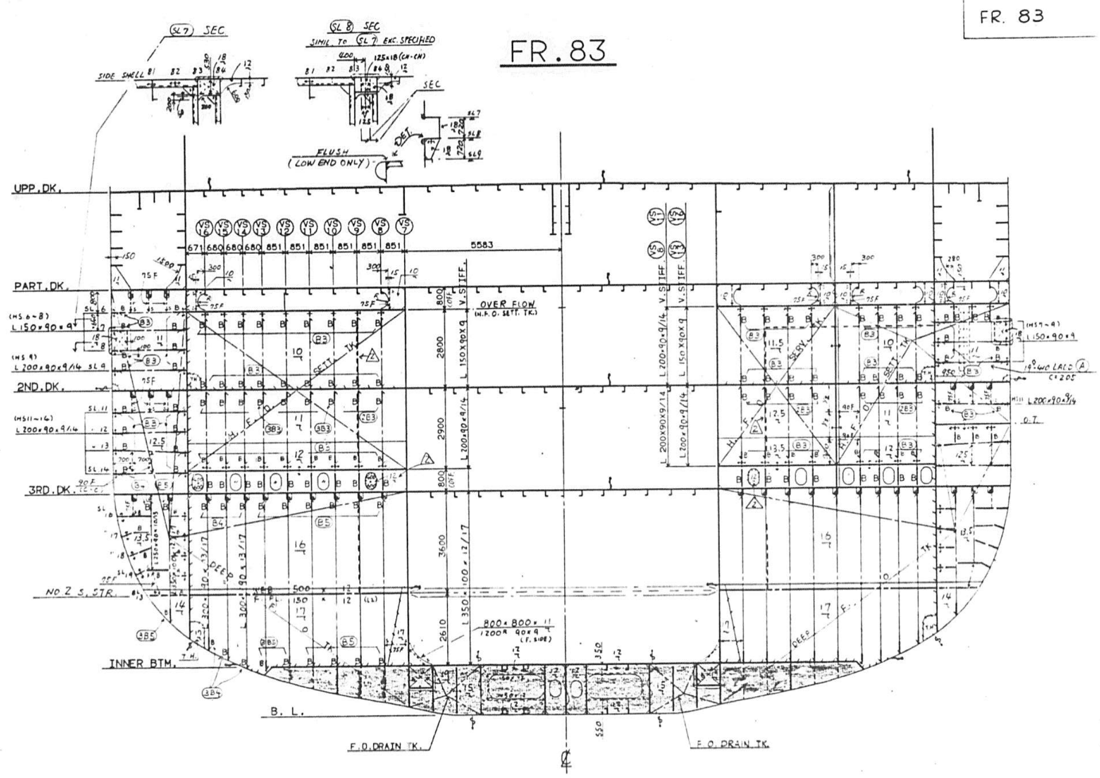
FR. 82



2101014-19/

FR. 83

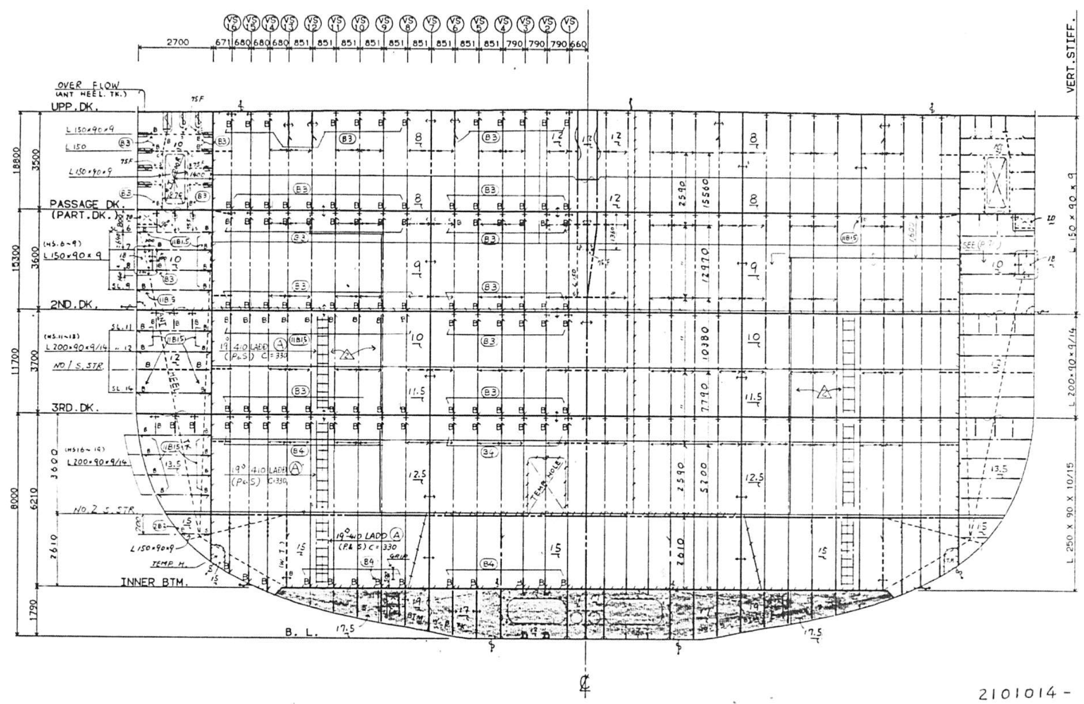
FR. 83



2101014-20/

FR. 84 WT. BHD.

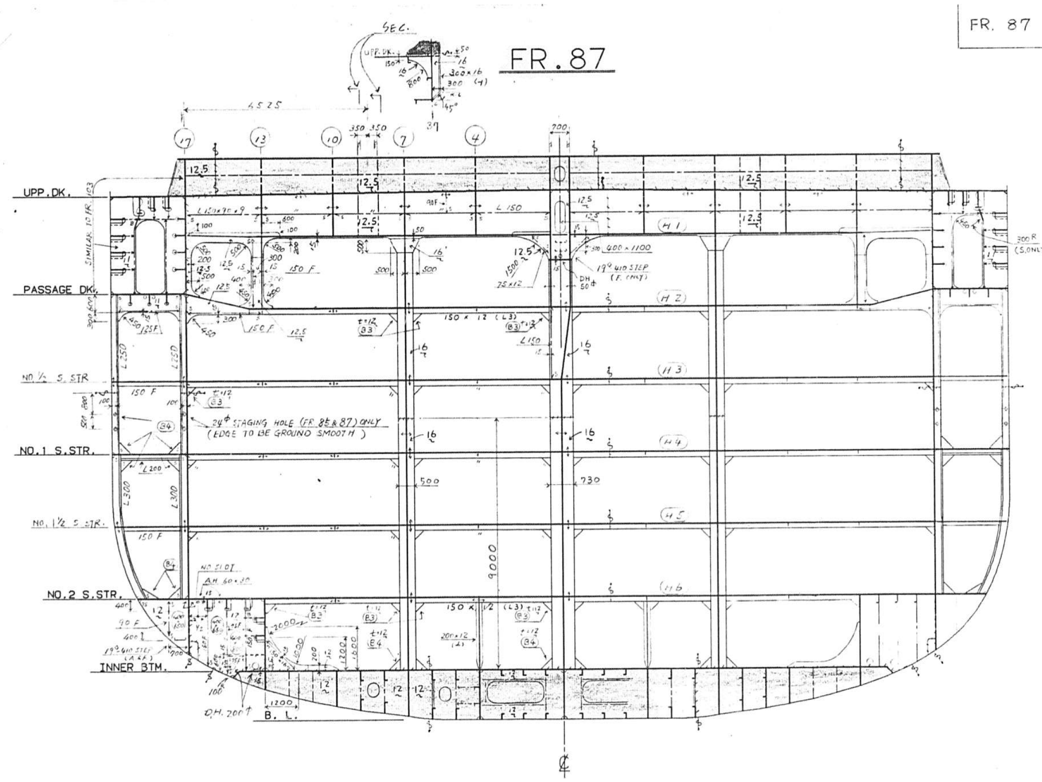
FR. 84 W.T. BHD.



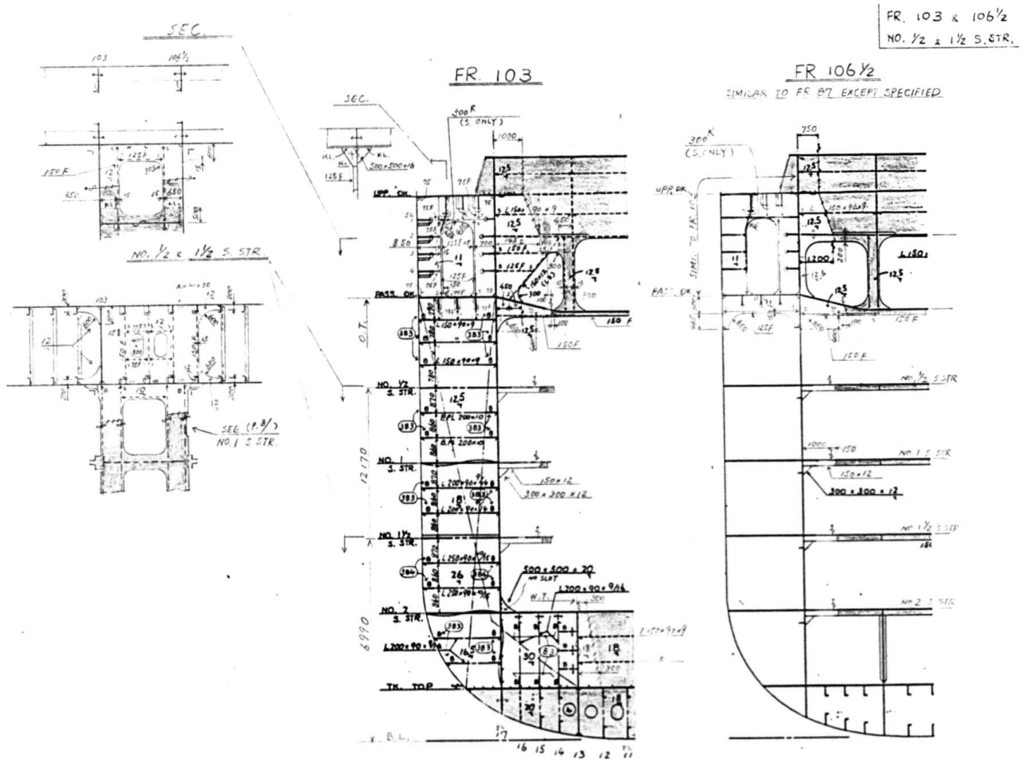
2101014 - 21/

FR. 87

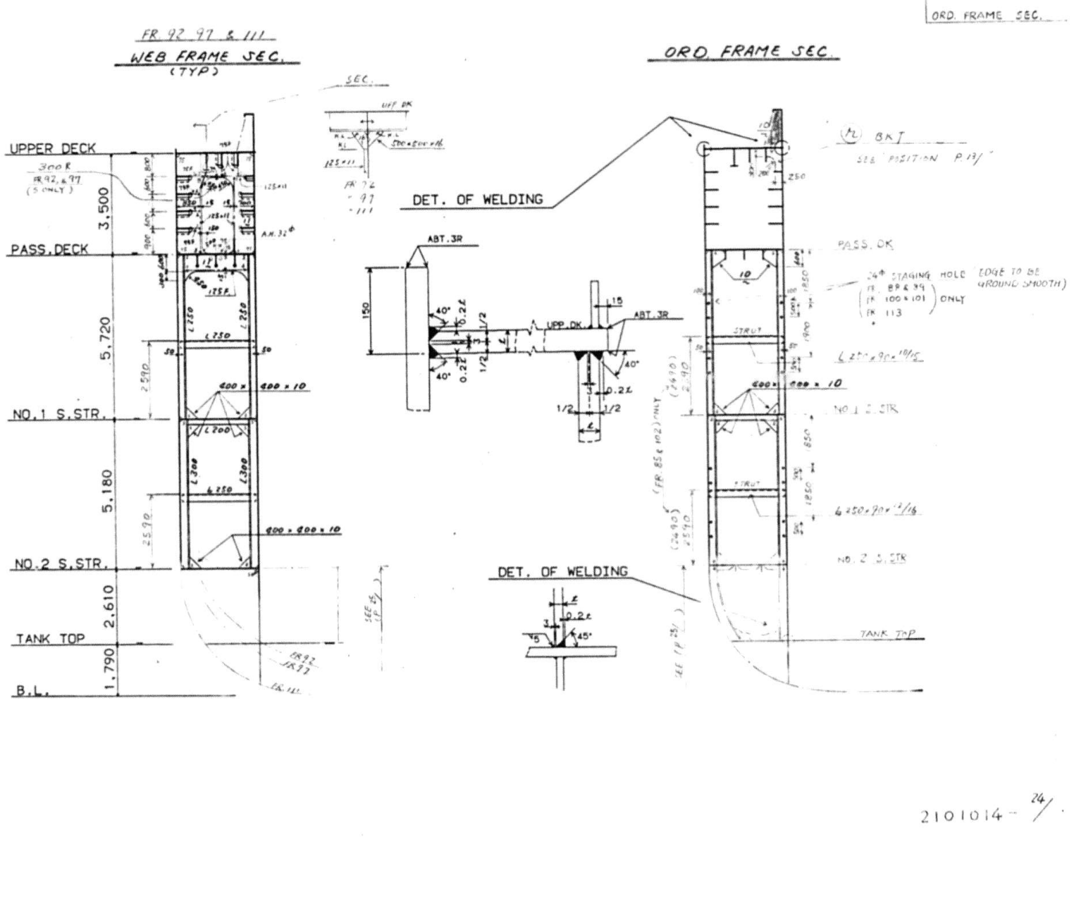
FR. 87



2101014 - 22/

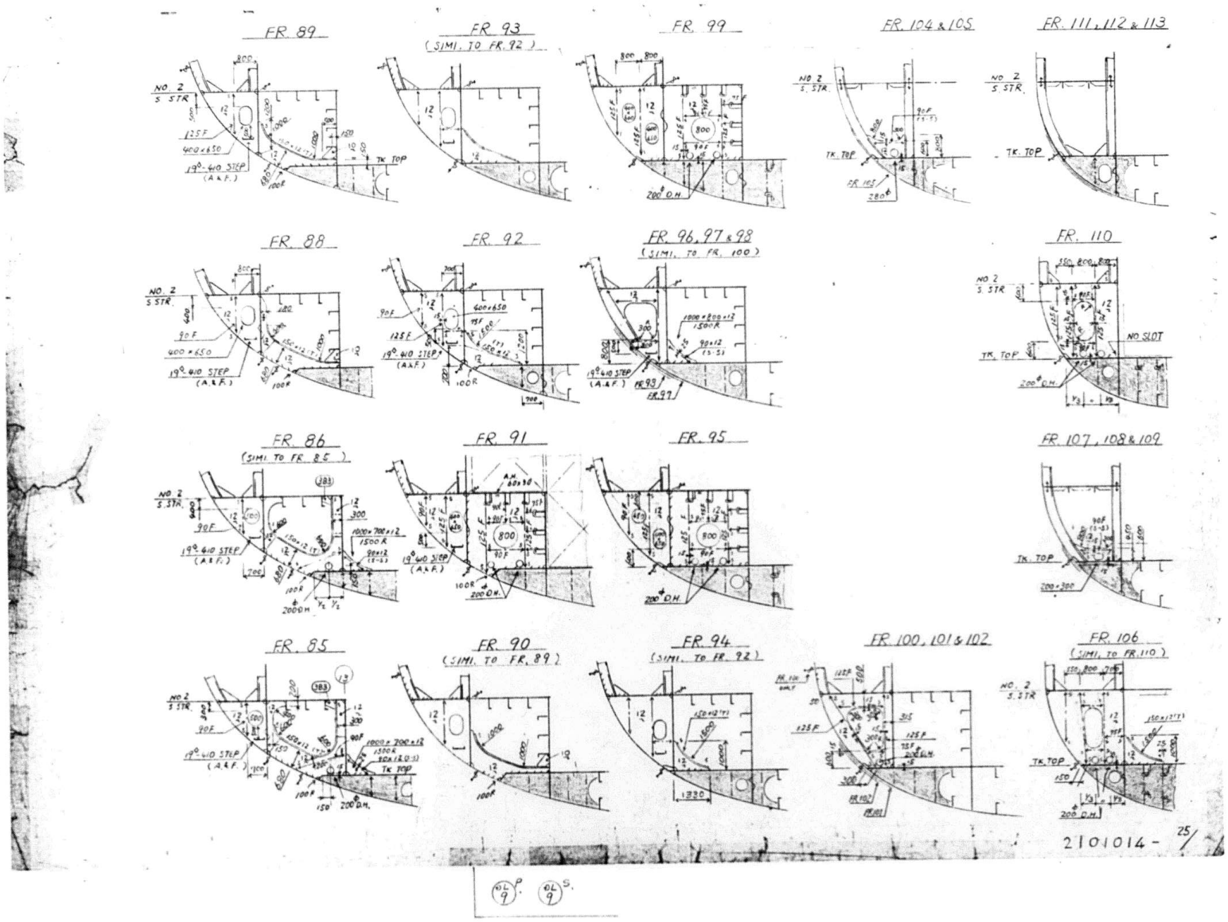


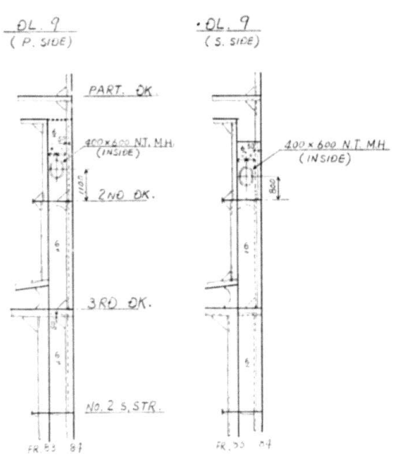
2101014 - 23/



2101014 - 24/

264





2101014-26/26

1/3

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.	—	FOLLOWED MES ORIGINAL & 1ST REVISED PLAN.	APR. 23 '85	
-10	A	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION OF MHI BUILDING SHIPS. 1. ADDED OR CHANGED BLOCK BUTT JOINTS ON UPPER DK, LONGL BHD & SIDE SHELL. 2. REARRANGED OR DELETED BUTT JOINTS (INCL. BLOCK BUTTS) ON DECK, BHD, HORIL GIRDER, PLATFORM ETC. 3. PENETRATED 2ND DK AND NO. 1/2 SIDE STRINGER PLATES AT FR. 83 & FR. 103 BHD RESPECTIVELY. 4. MODIFIED SHAPE OF CORNER SLOTS OR ADDED SLOTS IN RELATION TO ABOVE ITEMS. 5. REARRANGED STAGING HOLES. 6. MODIFIED SHAPE OF SLOTS ON WEB IN PASSAGE WAY FROM TYPE AM (WITH COLL. PL. TYPE AM1) TO TYPE BM. (REFER TO MIDSHIP SECTION) 7. MODIFIED SHAPE OF SLOTS & COLL. PLATES FOR THE CONVINIENCE OF ASSEMBLY WORK. BASED DWG MES DWG NO. 2101014 (1ST REVISED PLAN)	MAY 17 '85	
-20		FOLLOWED MES PARTLY REVISED PLAN NO. A1	JUN. 7. '85	
-21		Do. NO. A2	JUL. 8. '85	
-22		Do. NO. A3	JUL. 31. '85	
-23		Do. NO. A4	AUG. 26. '85	
-24	B	SHIFTED VERTICAL STIFF. ON FR. 106 & 110 SEC.	SEP. 17. '85	
-25		FOLLOWED MES PARTLY REVISED PLAN NO. A5	OCT. 4. '85	

24 SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION		
	APPROVED	CLASS ABS	
	CHECKED	貨物倉構造(オ5倉) CARGO HOLD CONSTRUCTION (NO. 5 HOLD)	
	DRAWN		
	SCALE		
	ORDER 01-15800 ~~01-18000~~ ~~01-18400~~	DRAWING NO. HS-11440-F	LYKES REF. NO. 110605

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

2/3

PLAN RECORD BY MHI (CONTINUE)

ALT. NO.	MARK	DISCRIPTION	DATE	BY
-26	—	1. FOLLOWED MES PARTLY REVISED PLAN NO. A6.		
	C	2. IMPROVED STRUCTURALS ON FR. 83 & 84 BHD AT VS 9 (IN WAY OF VENT. TRUNK SIDE WALL) IN RELATION TO ABOVE ITEM 1.	DEC. 17. '85	
-27	D	ADDED TEMP. HOLES ON UPP DK AT FR. 113½ AND ON LONGL BHD AT FR. 96½ & 113½.	JUL. 1. '86	
-28	E	1. CHANGED TYPE OF MAN HOLES FROM NON TIGHT TO WATER TIGHT. 2. ADDED WATER TIGHT COLLAR PLTES. DUE TO USCG REQUIREMENT	SEP. 11. '86	
-29	F	ADDED W.T. MAN HOLES ON VENT. TRUNK SIDE WALL AT FR. 83½.	OCT. 22. '86	
-30	G	ADDED COLLAR PLATE ON DL 17 LONGL BHD (S. SIDE) IN VENT. TRUNK SIDE.	NOV. 5. '86	
-F	—	PREPARED AS FINISHED PLAN FOR S. No. 1158	MAR. 11 '87	

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	APR-25-'85	OFTS/MES/7261						
1ST REV. PLAN	MAY-31-'85	OFTS/MES-5?1						
PART. REV. NO. 1	JUN-21-'85	OFTS/MES-595						
PART. REV. NO. 2	JUL-12-'85	OFTS/MES-717						

SHIPYARD AND SHIP'S NO. & NAME	
~~MITSUI TAMANO~~	MITSUBISHI KOBE
NO. 1323 ~~DOCTOR LYKES~~	NO. 1158 JAMES LYKES
NO. 1324 ~~ALMERIA LYKES~~	NO. 1159 ~~JOSEPH LYKES~~
NO. 1325 ~~TILLIE LYKES~~	NO. 1164 ~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER	SHIP'S NO.	SHIP'S NAME
STRUCTURE DESIGN SEC. M. Tokioda / Y. Hayashi	(TS 1325 ONLY) 貨物倉構造(オ5倉) CARGO HOLD CONSTRUCTION (NO. 5 HOLD)	PARTLY REVISED PLAN NO. 5
DATE 60.12.6 TEL 2230?		
SCALE 1/100	LYKES REF. NO. 110605	MITSUI DRAWING NO. 2101014-A6

(10 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS	FEB 22 '85
A	A	REVISED ACCORDING TO DISCUSSION WITH OWNER (DATED 1ST APR. '85)	APR. 25/'85
	A	REVISED ACCORDING TO DISCUSSION WITH ABS	
	A	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	
A1	A1	REVISED ACCORDING TO OWN'S REQ. (DATED 15TH APRIL '85) (CE NO. OFTS/MES/574 5-?-85)	MAY 17 '85
	A1	REVISED ACCORDING TO ABS' REQ.	
	A1	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	
	A1	OWN'S REQ. (LTR. NO. OFTS/MES/7?? DATED 23 APR. '85)	
A2	A2	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	JUN. 14 '85
A3	A3	REVISED ACCORDING TO ABS. REQ.	JULY 19 '85
	A3	MISCELLANEOUS REVISION	
A4	A4	MISCELLANEOUS REVISION (FOR DRAINAGE) (OWNS DISCUSS. 11TH JUL '85)	AUG. 7 '85
	A4	CORRECTED THE PIPE HOLE HEIGHT (ERROR OF DWG.)	
A5	A5	MISCELLANEOUS REVISION	SEPT. 25. '85
A6	A6	OWN'S REQ. (TO PROVIDE THE DUCT SPACE SEPARATELY IN FR 83-84 COFF.)	DEC. 6. '85

DWG. NO. 2101014-A6

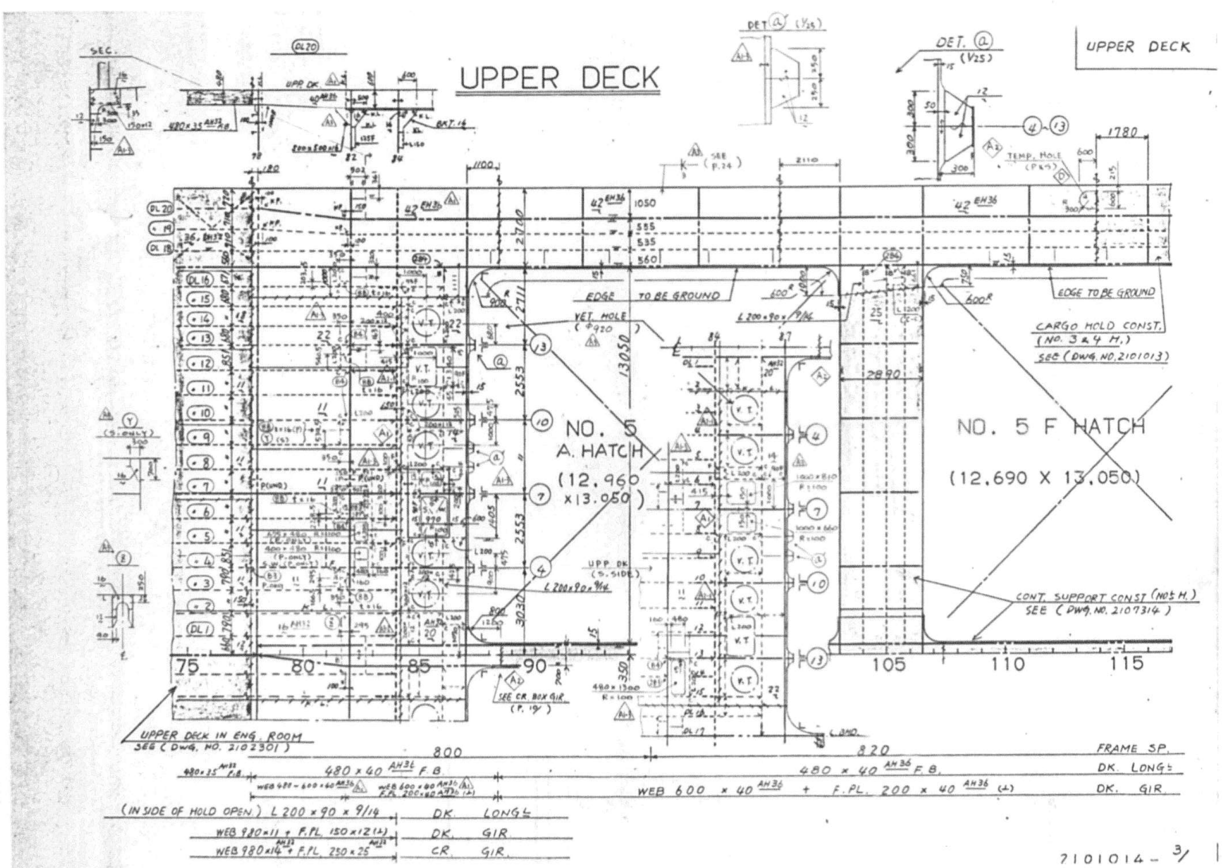
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

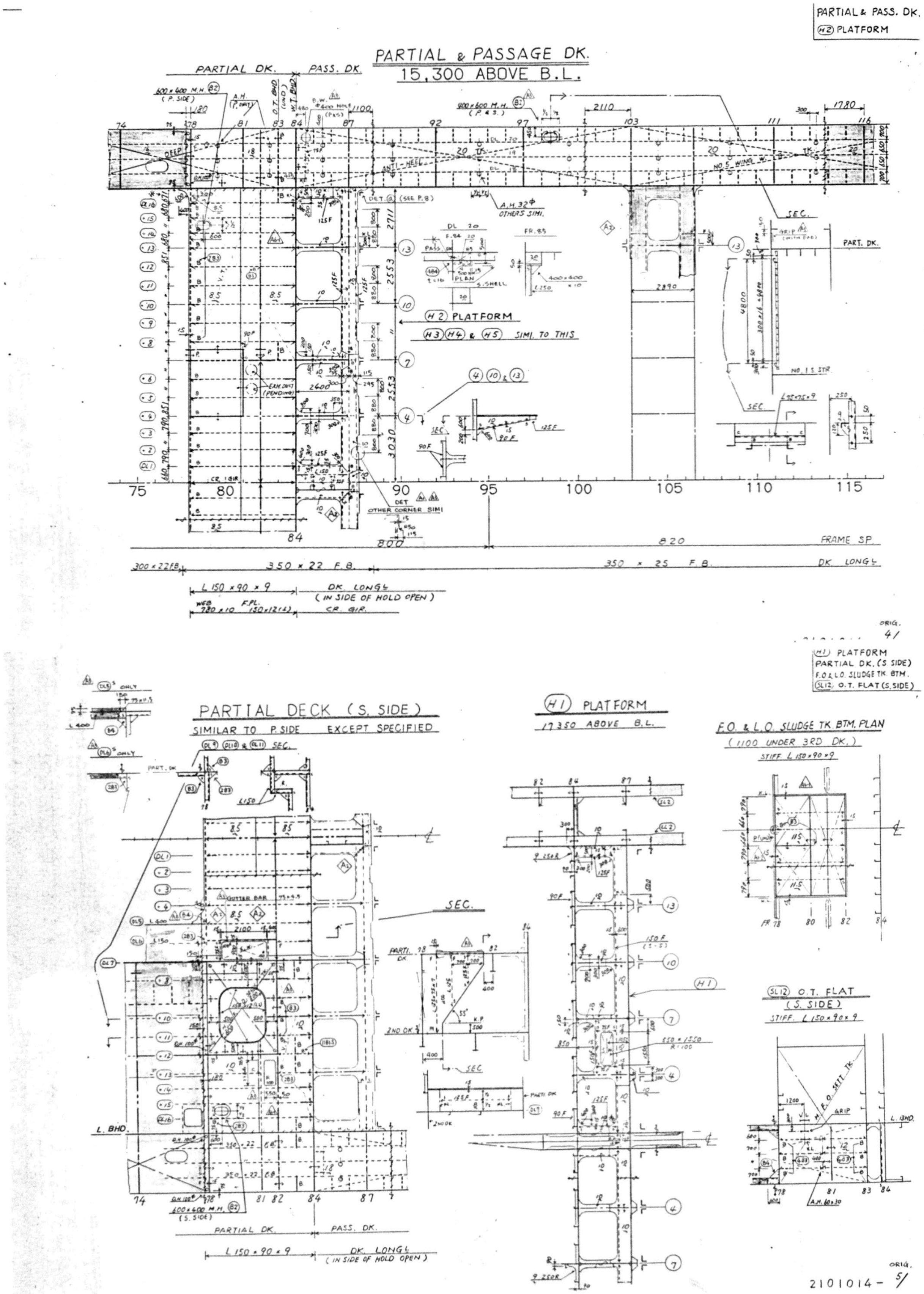
備 考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番2100811）」を参照のこと。
4. 溶接脚長については，特記の他は「溶接脚長表（図番2100832）」を参照のこと。

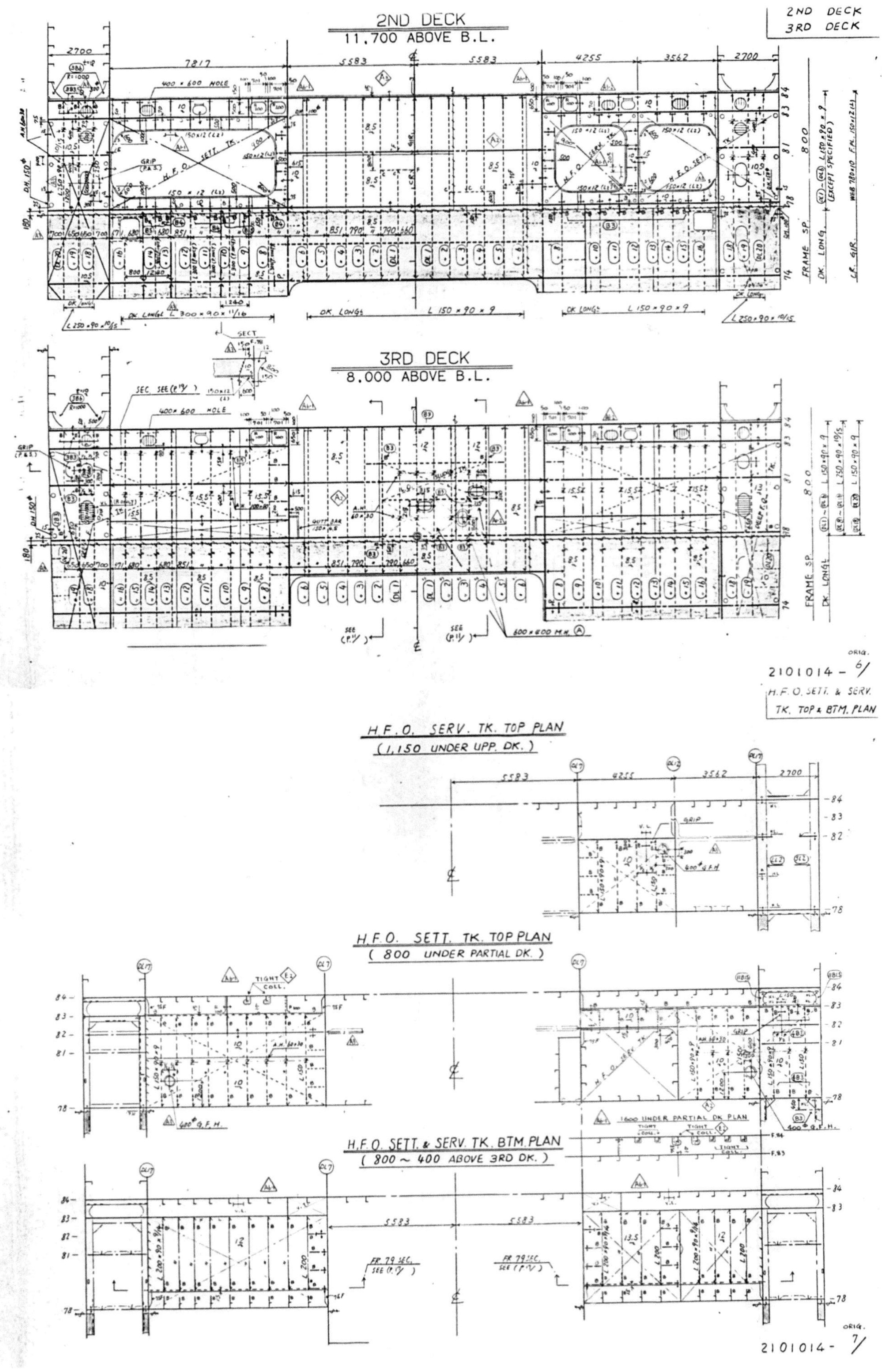
2101014-2/



2101014-3/



PARTIAL & PASS. DK.
H2 PLATFORM
PARTIAL & PASSAGE DK.
15,300 ABOVE B.L.
PARTIAL DK.
PASS. DK.
H2 PLATFORM
H3 H4 & H5 SIMI. TO THIS
FRAME SP.
DK. LONGL
(IN SIDE OF HOLD OPEN)
CR. GIR.
ORIG. 4/
H1 PLATFORM
PARTIAL DK. (S SIDE)
F.O. & L.O. SLUDGE TK. BTM.
SL12 O.T. FLAT (S. SIDE)
PARTIAL DECK (S. SIDE)
SIMILAR TO P. SIDE EXCEPT SPECIFIED
H1 PLATFORM
17350 ABOVE B.L.
F.O. & L.O. SLUDGE TK. BTM. PLAN
(1100 UNDER 3RD DK.)
STIFF. L 150×90×9
SL12 O.T. FLAT
(S. SIDE)
STIFF. L 150×90×9
L. BHD.
ORIG. 5/
2101014-

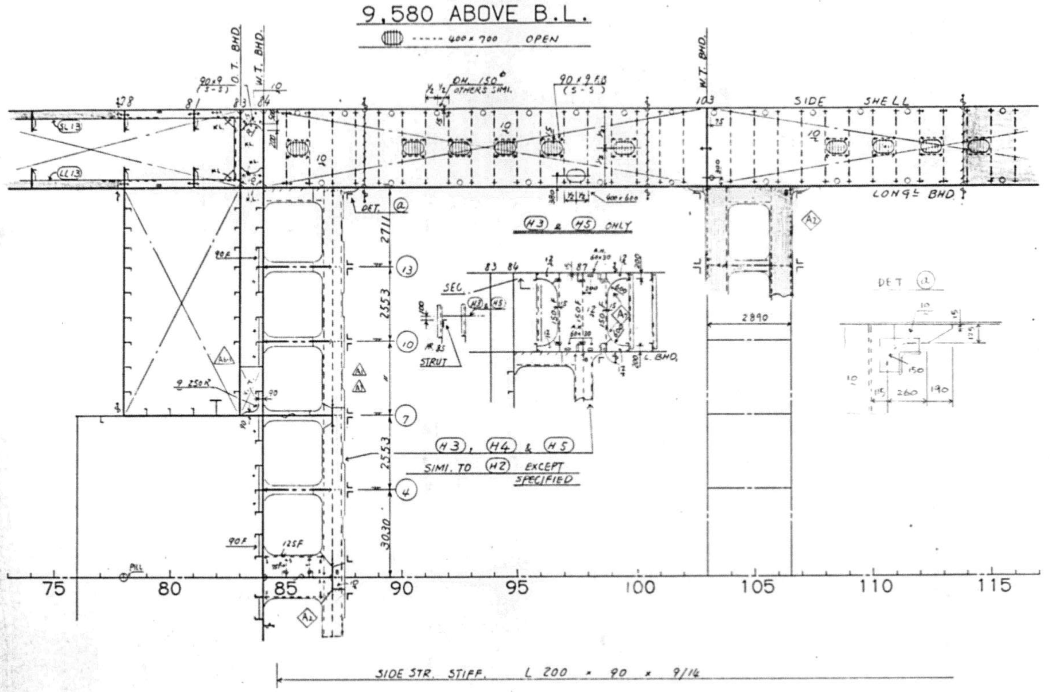

2ND DECK
3RD DECK
2ND DECK
11,700 ABOVE B.L.
3RD DECK
8,000 ABOVE B.L.
FRAME SP.
DK. LONG.
2101014 - 6/
H.F.O. SETT. & SERV.
TK. TOP & BTM. PLAN
H.F.O. SERV. TK. TOP PLAN
(1,150 UNDER UPP. DK.)
H.F.O. SETT. TK. TOP PLAN
(800 UNDER PARTIAL DK.)
H.F.O. SETT. & SERV. TK. BTM. PLAN
(800 ~ 400 ABOVE 3RD DK.)
2101014- 7/

NO. 1 SIDE GIR. (9.580 ABOVE B.L.)

NO.1 SIDE STR.

9,580 ABOVE B.L.

400 × 700 OPEN



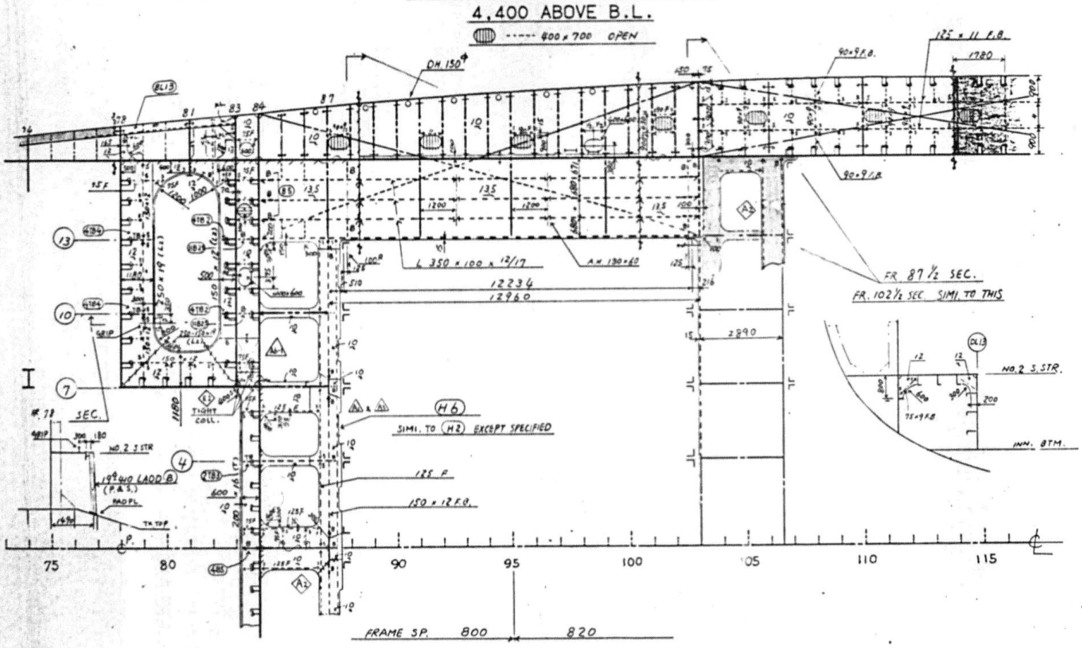
2101014 - 8/

NO.2 SIDE STR. (4.400 ABOVE B.L.)

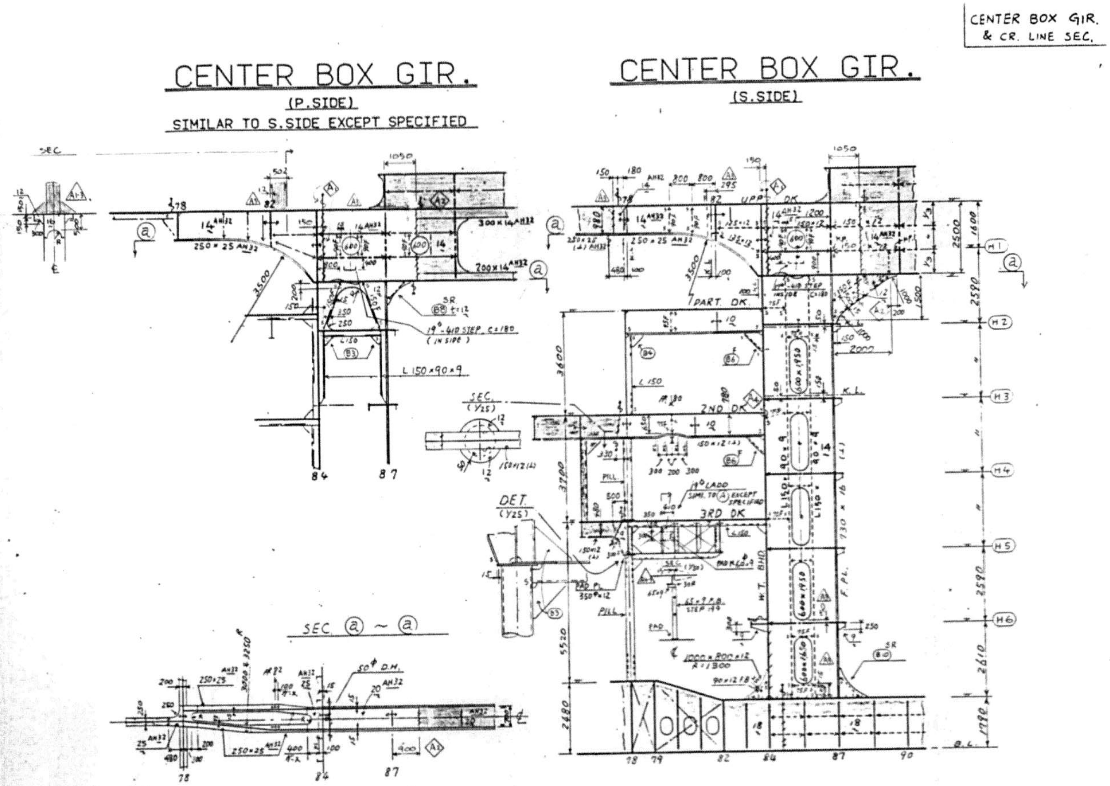
NO.2 SIDE STR.

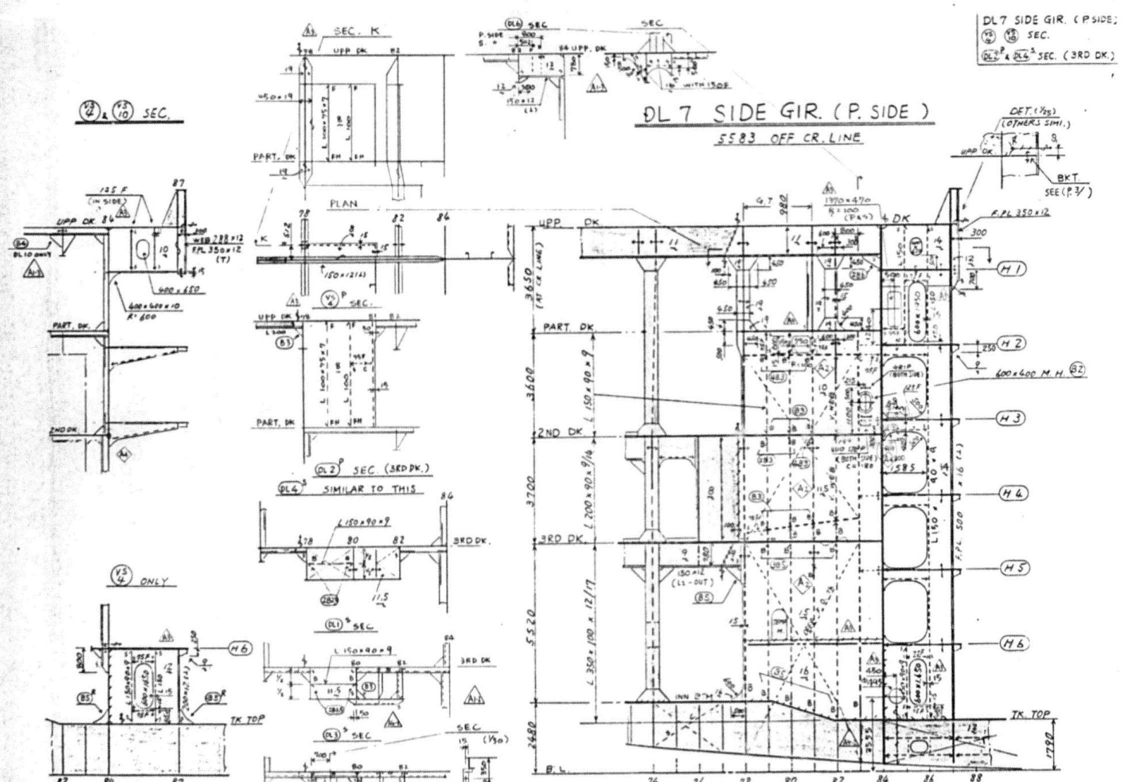
4,400 ABOVE B.L.

400 × 700 OPEN

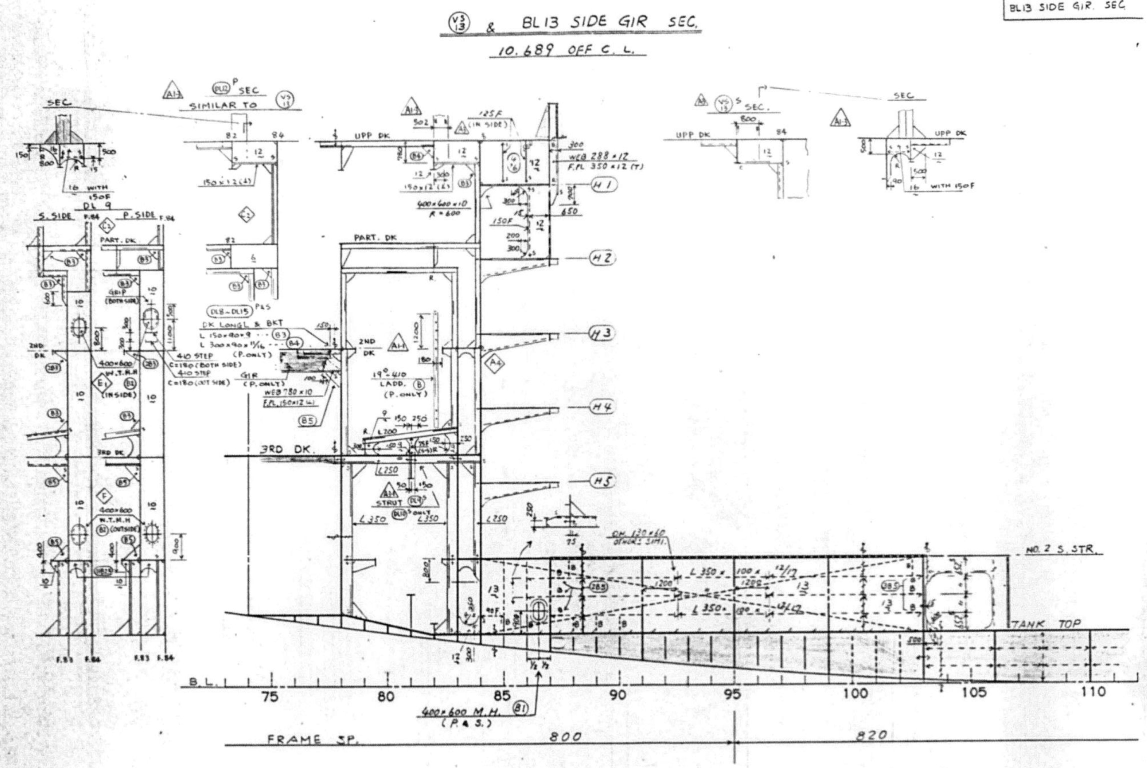


2101014 - 9/


CENTER BOX GIR.
& CR. LINE SEC.
CENTER BOX GIR.
(P.SIDE)
SIMILAR TO S.SIDE EXCEPT SPECIFIED
CENTER BOX GIR.
(S.SIDE)
SEC. ⓐ ~ ⓐ
2101014-10/


DL7 SIDE GIR. (P.SIDE)
DL 7 SIDE GIR. (P. SIDE)
5583 OFF CR. LINE
2101014-11/

271

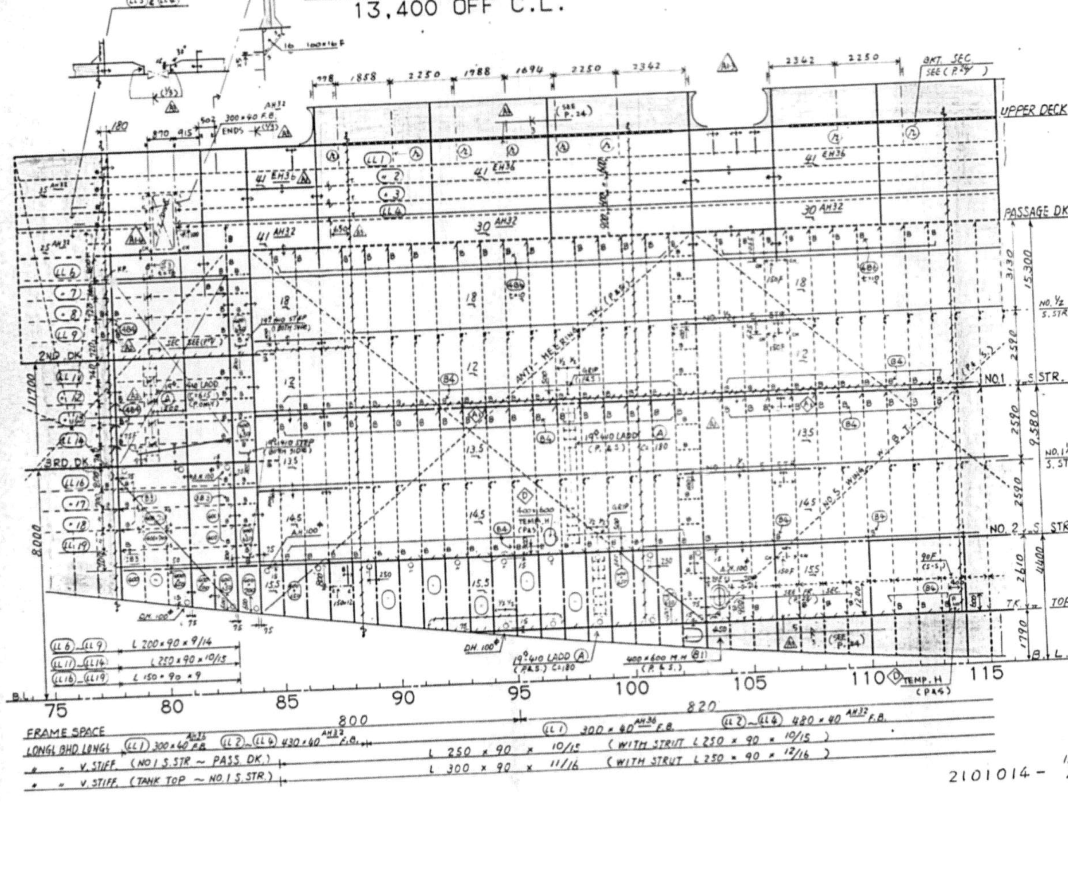


2101014- ORIG. 12/

DL 17 LONGL BHD. (P. SIDE)

DL 17 LONGL. BHD. (P. SIDE)

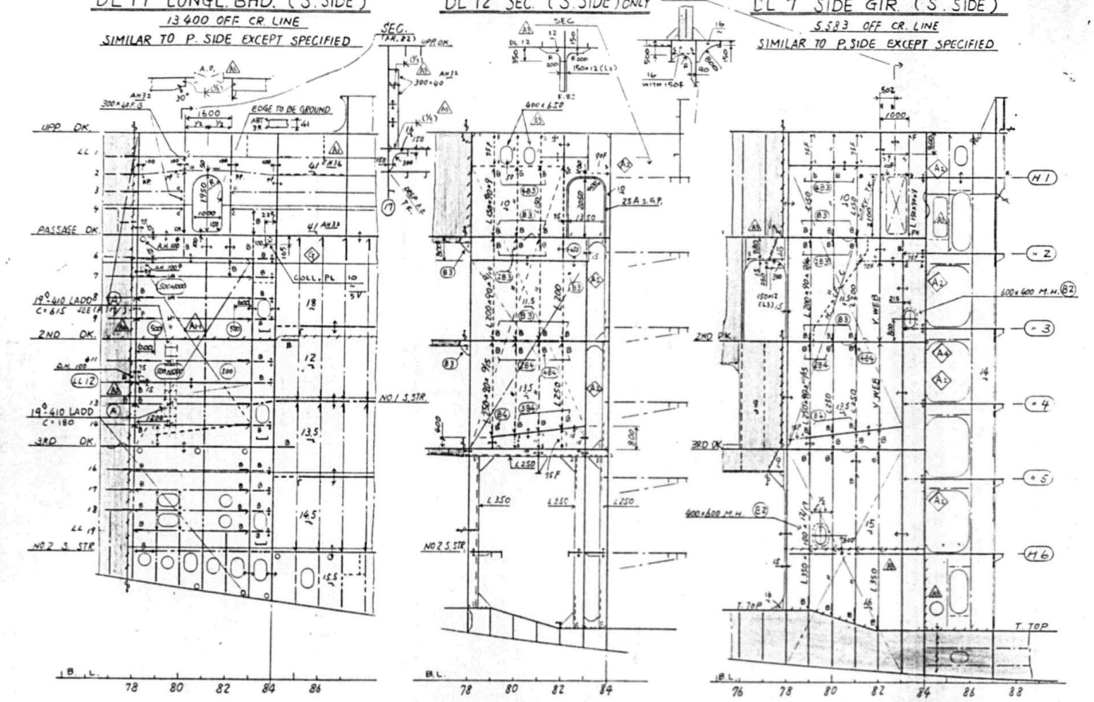
13,400 OFF C.L.



2101014- 13/

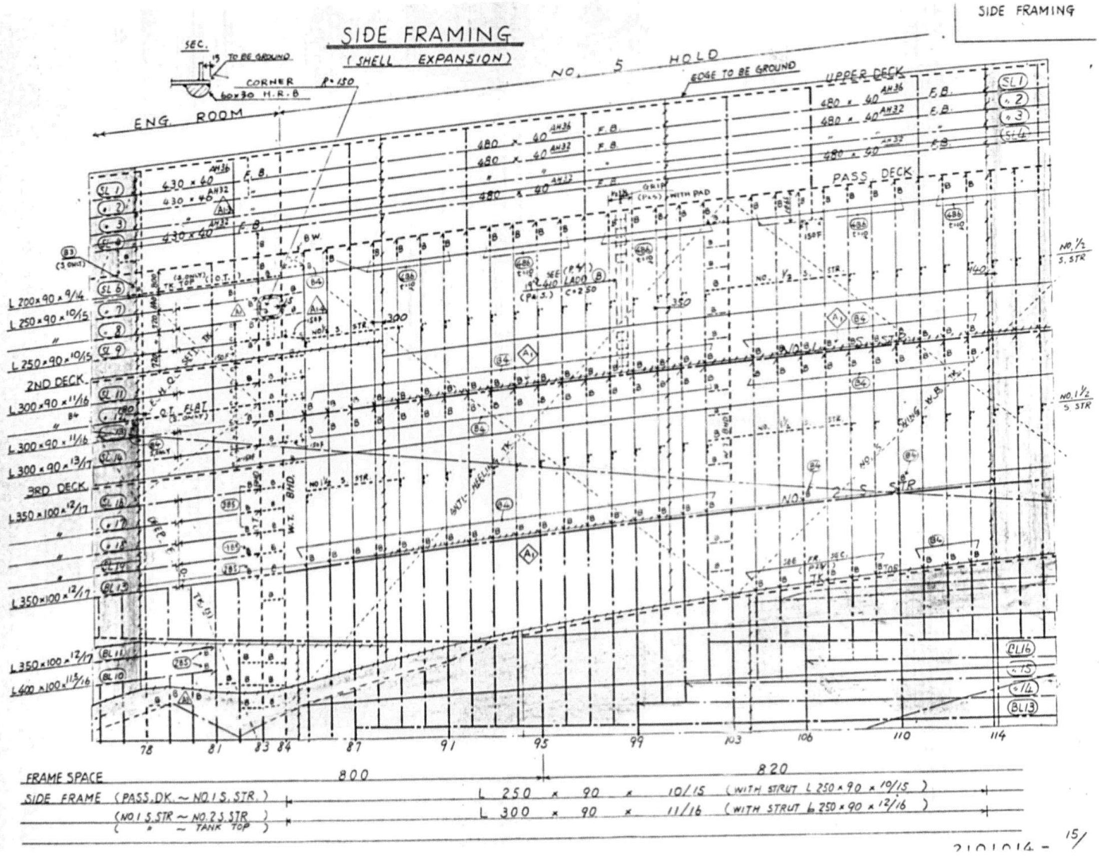
272

DL 7 SIDE GIR. (S.SIDE)
DL 12 SEC. (S.SIDE)
DL 17 LONGL. BHD. (S.SIDE)



2101014- 14/

SIDE FRAMING



FRAME SPACE 800 820

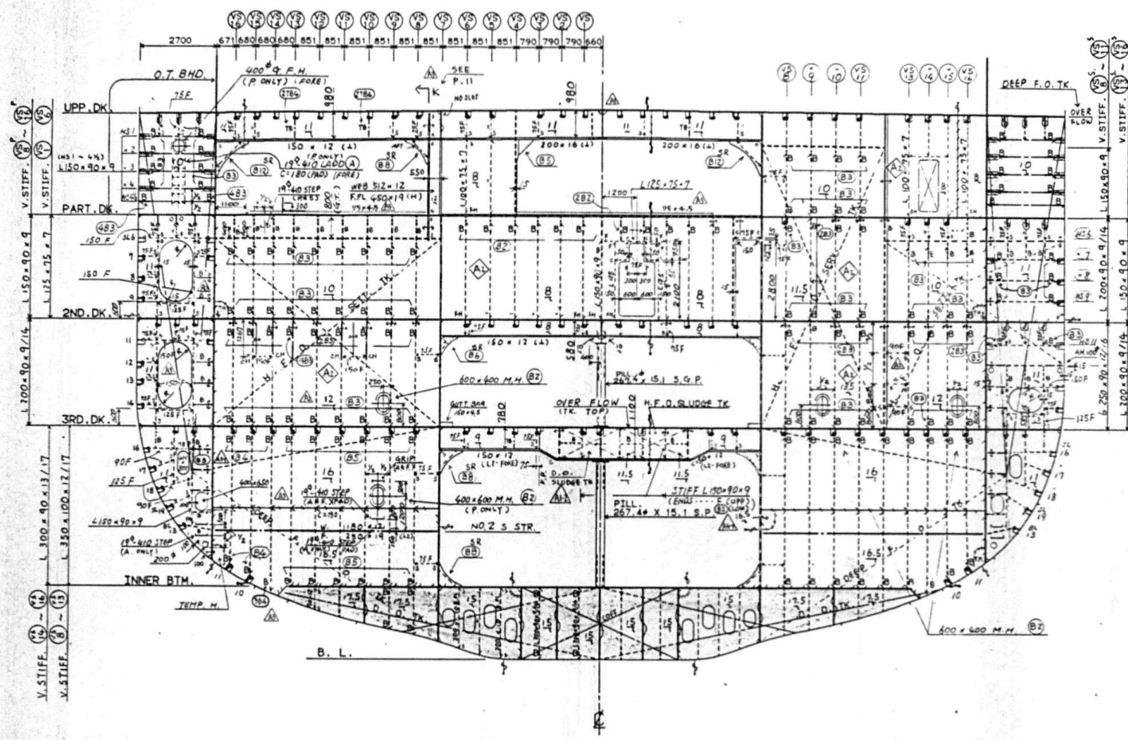
SIDE FRAME (PASS. DK. ~ NO 1 S. STR.) L 250 × 90 × 10/15 (WITH STRUT L 250 × 90 × 10/15)

(NO 1 S. STR. ~ NO 2 S. STR.) (" ~ TANK TOP) L 300 × 90 × 11/16 (WITH STRUT L 250 × 90 × 12/16)

2101014- 15/

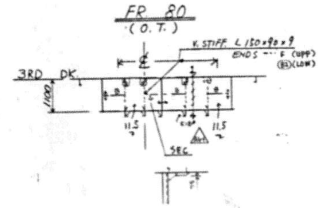
273

FR. 78

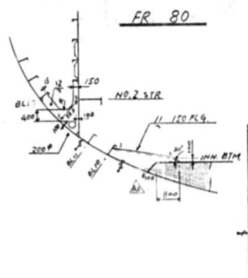


2101014 - 16/

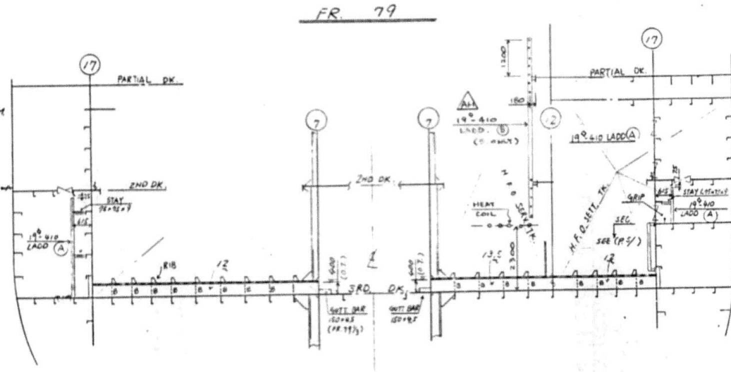
FR. 80 (O. T.)



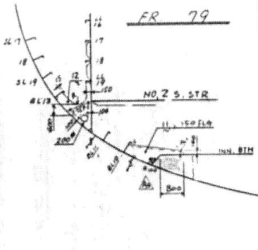
FR. 80



FR. 79



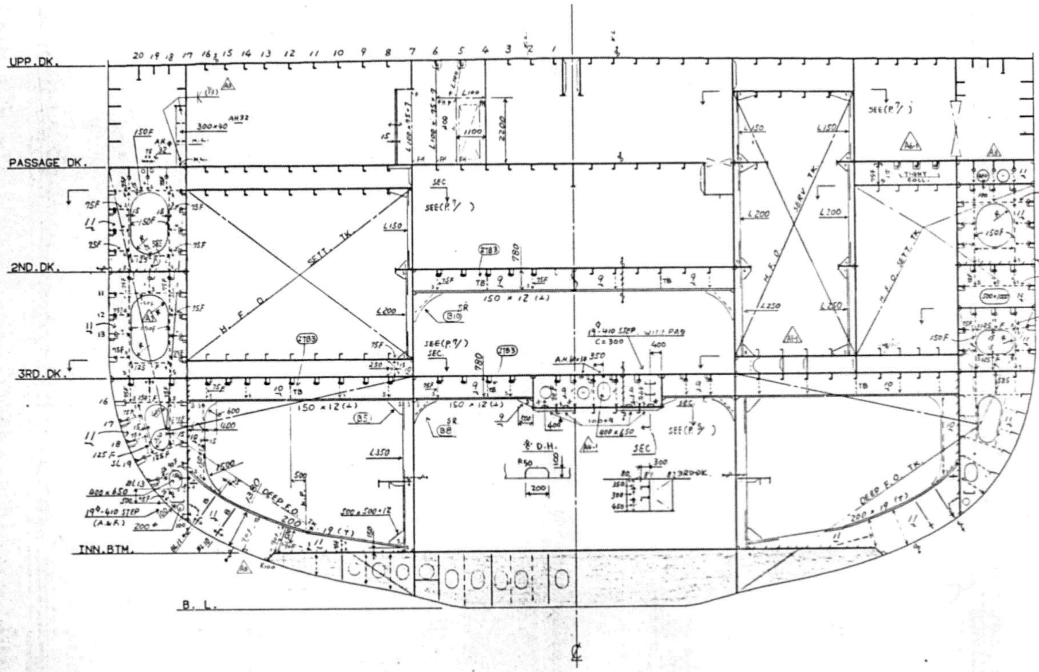
FR. 79



2101014 - 17/

FR. 81

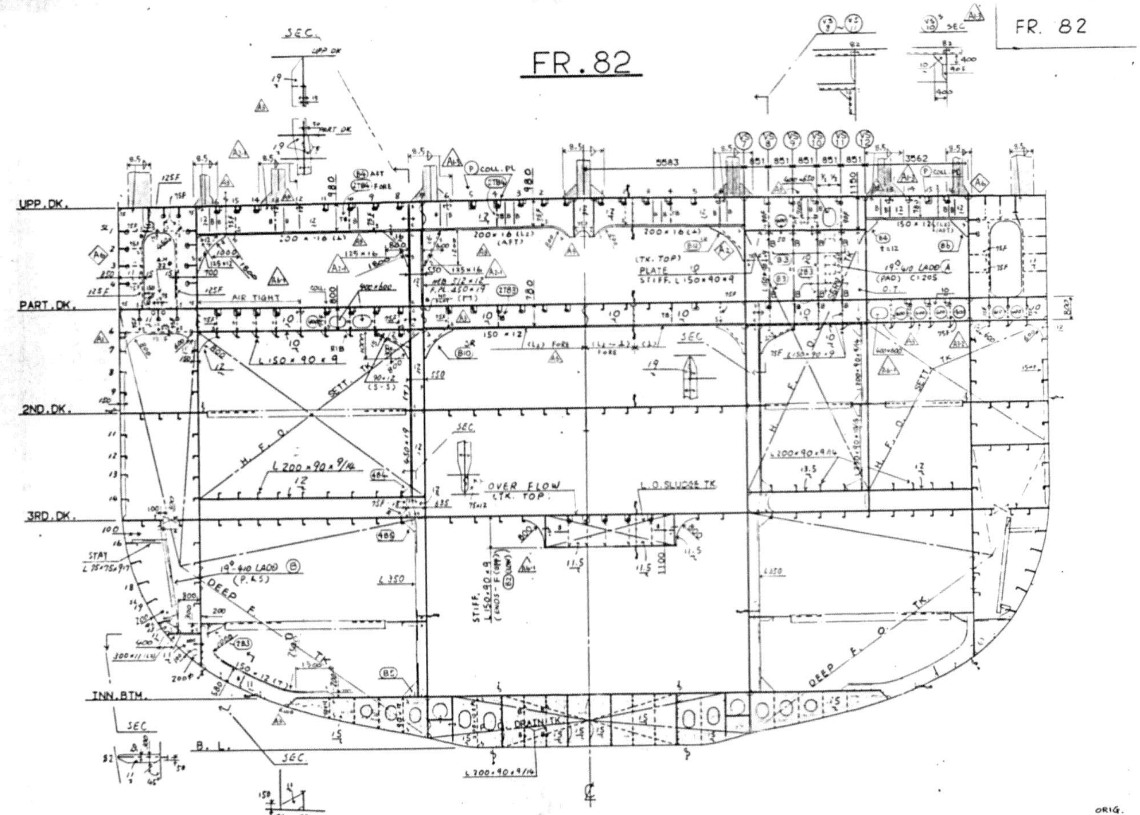
FR. 81



ORIG. 2101014-18/

FR. 82

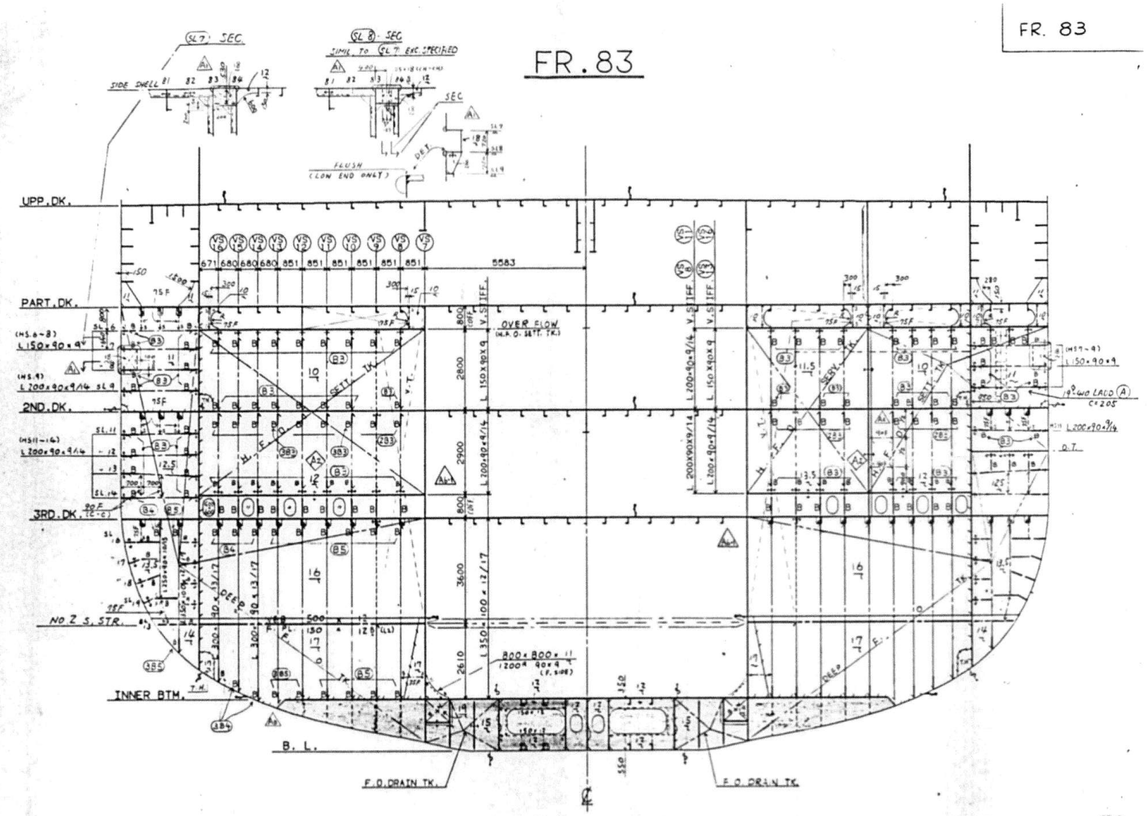
FR. 82



ORIG. 2101014-19/

275

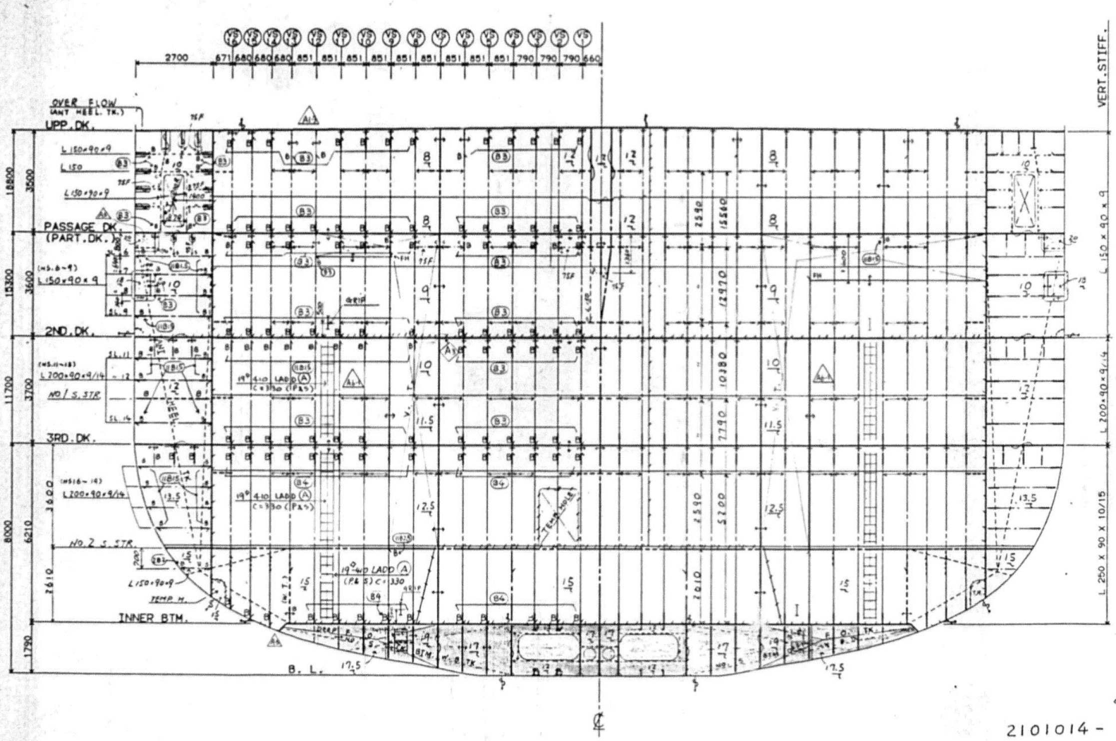
FR. 83



2101014 - 20/ ORIG.

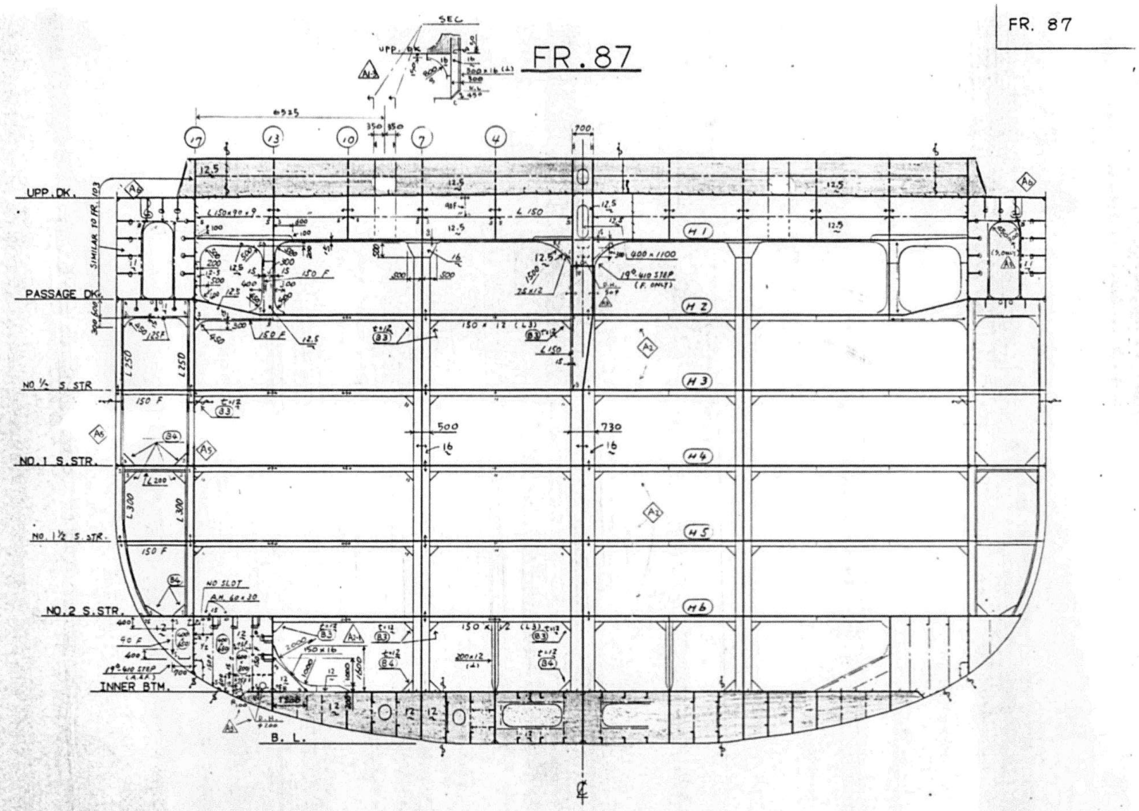
FR. 84 WT. BHD

FR. 84 W.T. BHD.



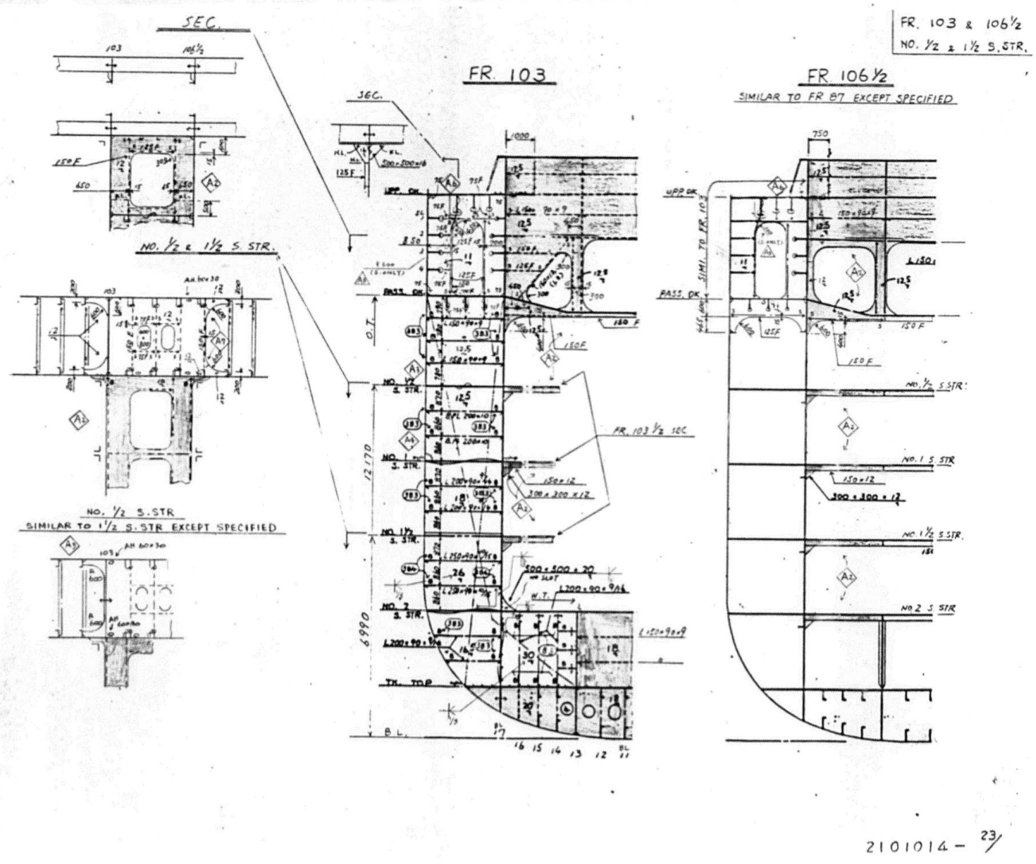
2101014 - 21/ ORIG.

FR. 87

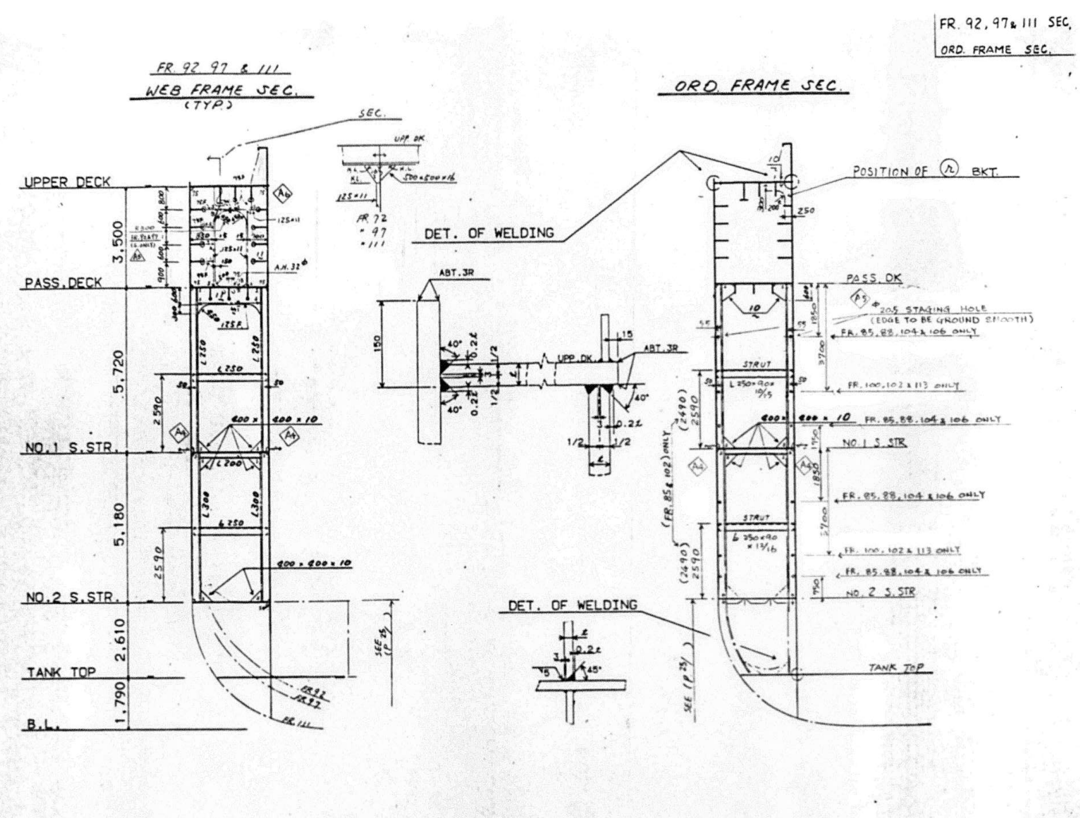


2101014 - 22/

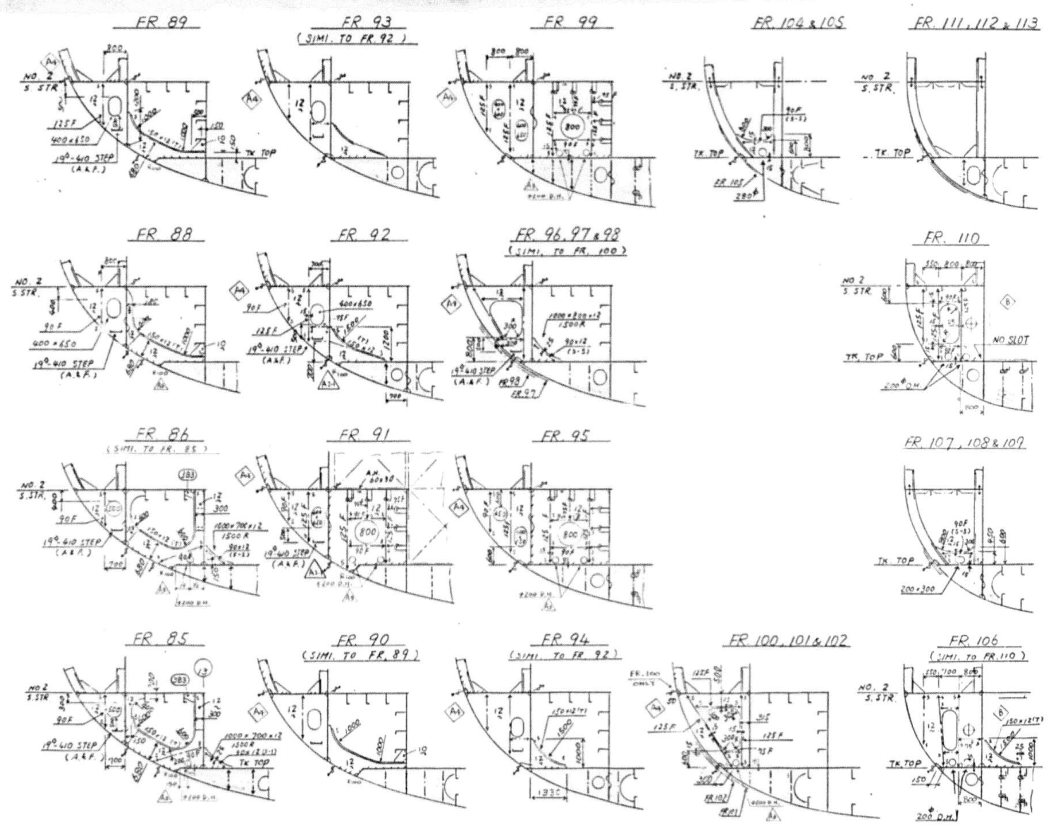
FR. 103 & 106 1/2
NO. 1/2 & 1 1/2 S.STR.



2101014 - 23/



2101014- 24/



2101014- 25/25

278

APPROVAL OF OWNER & REGULATORY BODIES

ALT.NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	14 MAY '84	OFTS/MES-393			17 AUG '84	T-8-2		
1ST PART REV	11 JUL '84	OFTS/MES-706			30 AUG '84	T-8-2		
2ND PART REV	16 AUG '84	TAM 40			4 OCT '84	T-8-2		
3RD PART REV	4 NOV '84	TAM 104			17 NOV '84	T-8-2		

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — STRUCTURE DESIGN SEC.

SHIP'S NO.: 1325 — SHIP'S NAME: TILLIE LYKES

貨物倉構造（第6倉）
CARGO HOLD CONSTRUCTION (NO. 6 HOLD)

JOB NO.: TS1323/24/25 — SCALE: 1/100 — LYKES REF. NO.: 110606 — MITSUI DRAWING NO.: 2101015

(19 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV 28 '86

DWG.NO. 2101015-1/

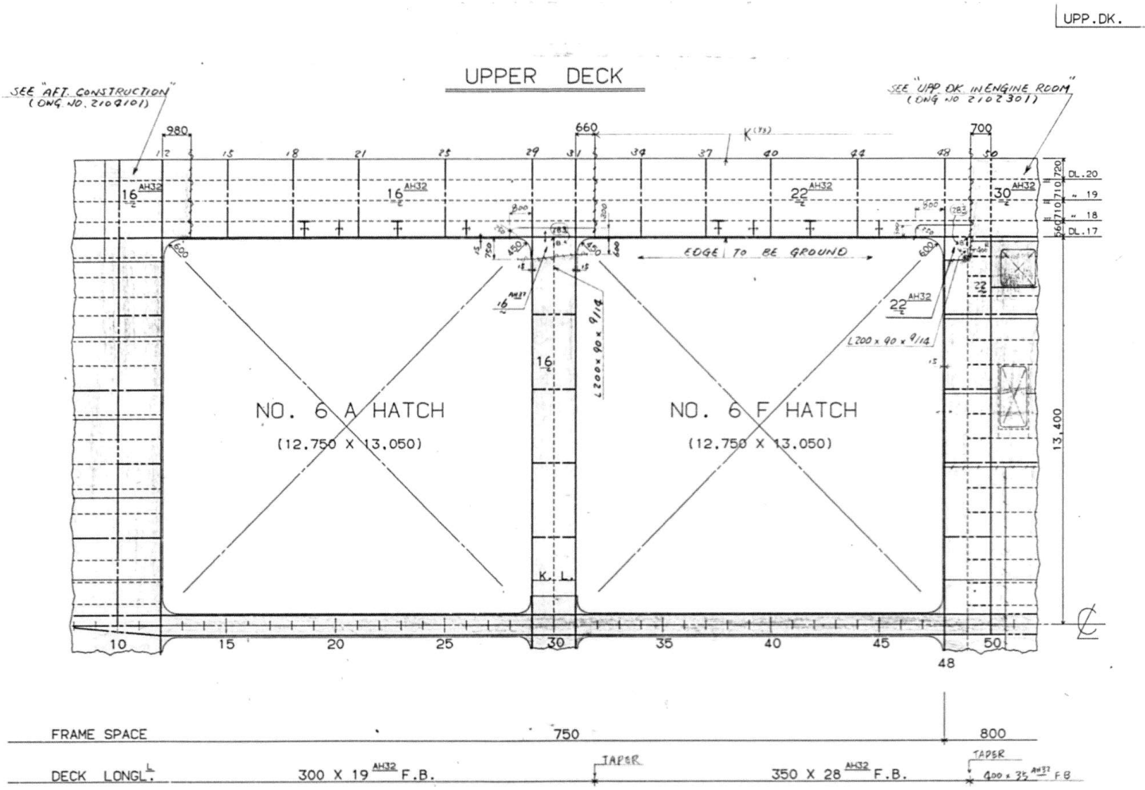
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

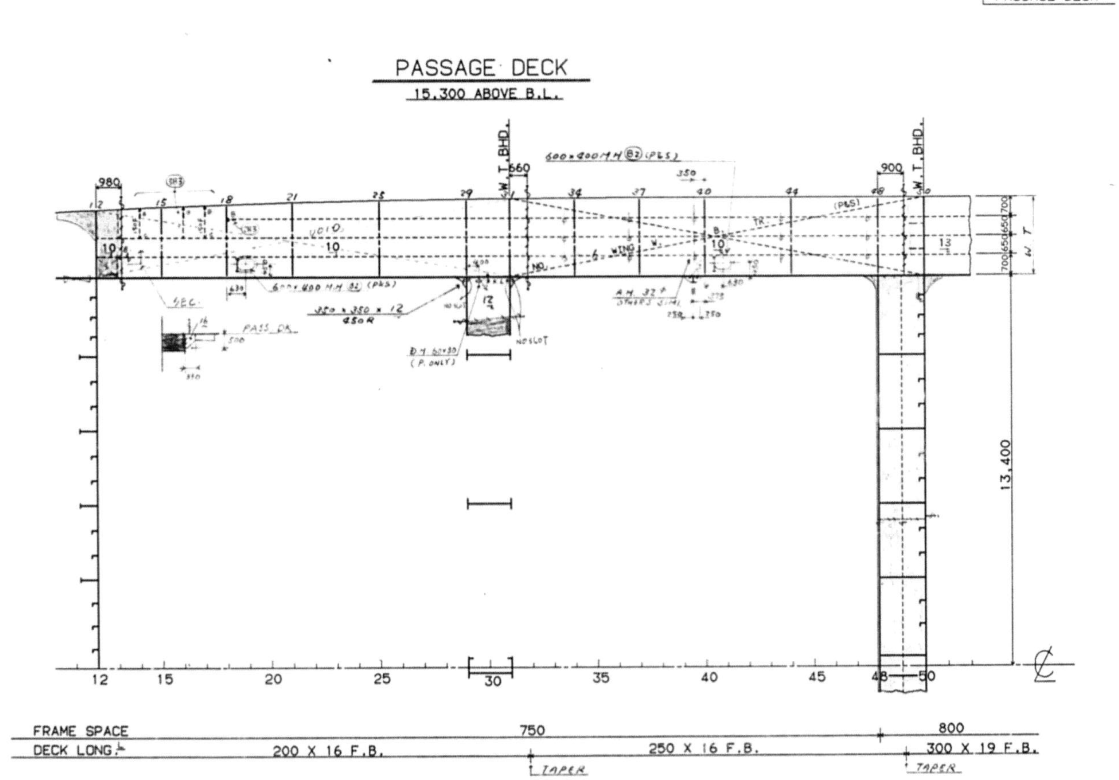
備　考：-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
   '構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は
   '溶接脚長表（図番2100832）'を参照のこと。

2101015-2/



2101015 - 31

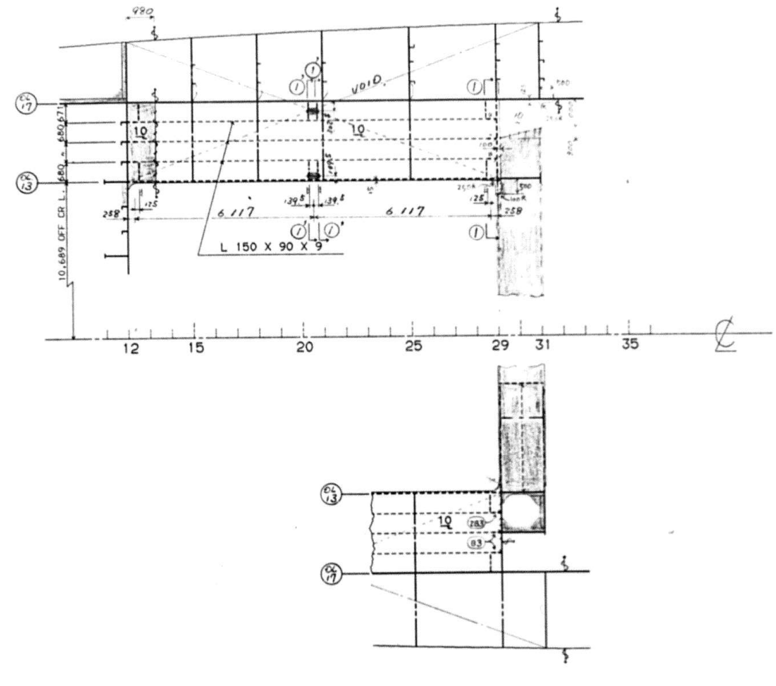


2101015 - 31

280

14,760 ABOVE B.L.

14,760 ABOVE B.L.



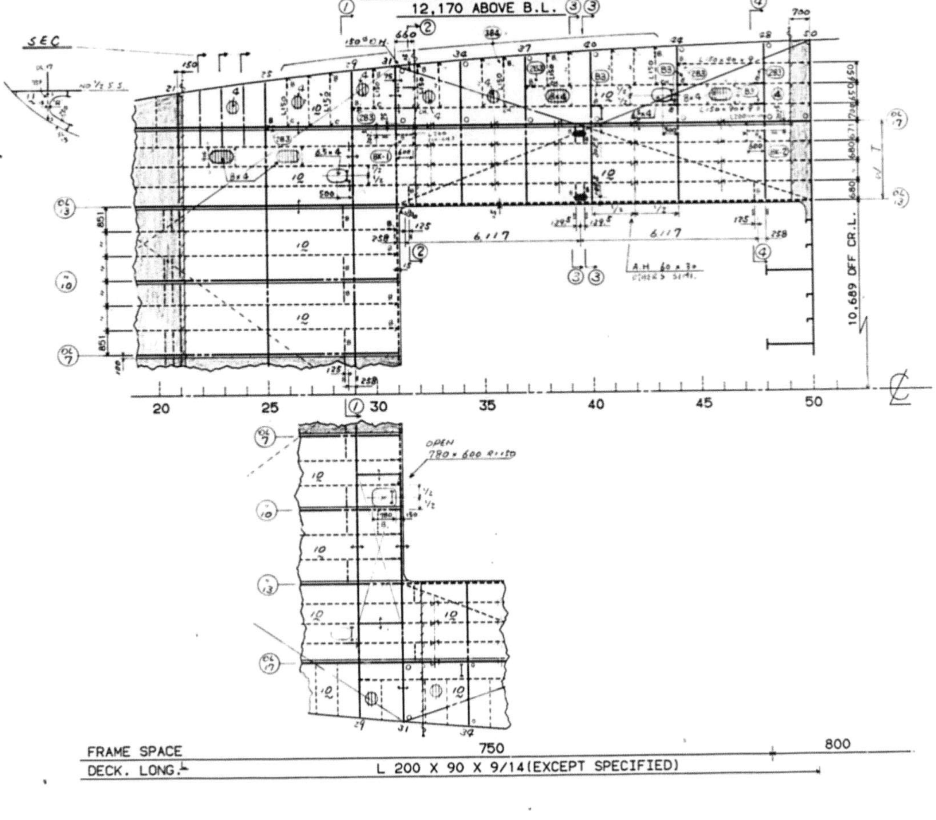
FRAME SPACE 750

2101015 - 51

NO.1/2 S.STR.

NO.1/2 SIDE STR.

12,170 ABOVE B.L.



FRAME SPACE 750 800

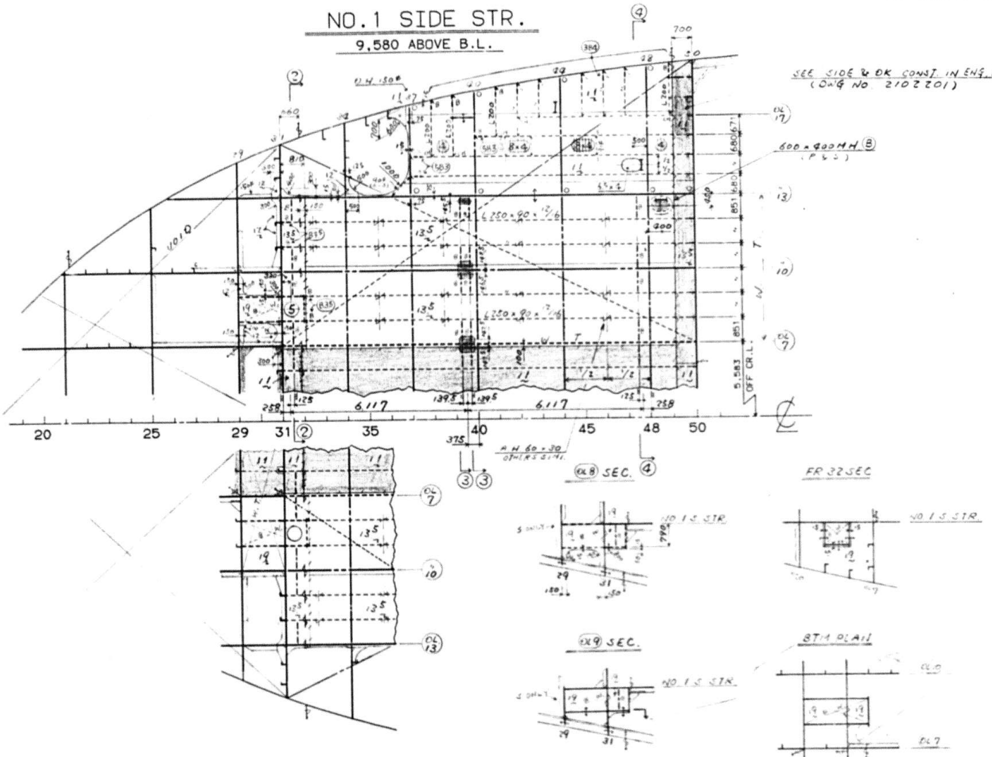
DECK. LONG. L 200 X 90 X 9/14(EXCEPT SPECIFIED)

2101015 - 61

281

NO.1 SIDE STR.

9,580 ABOVE B.L.



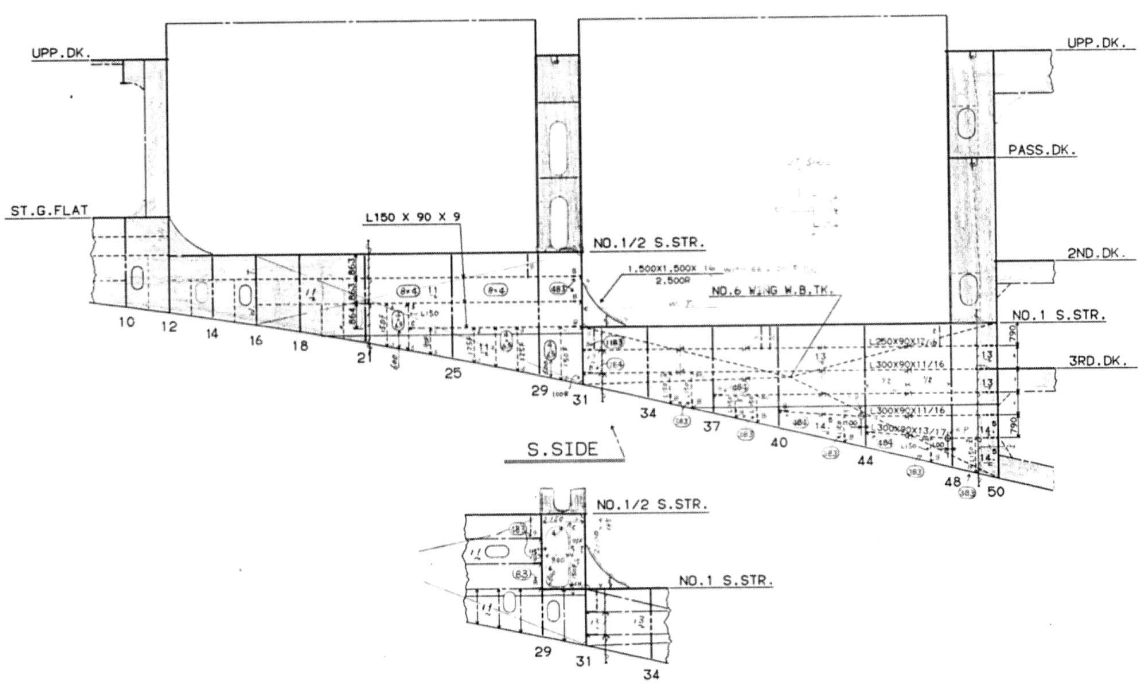
FRAME SPACE 750 800

DECK LONG. L 200 X 90 X 9/14(EXCEPT SPECIFIED)

2101015 - 7/

DL 7 SIDE GIR.

5,583 OFF CR.L.



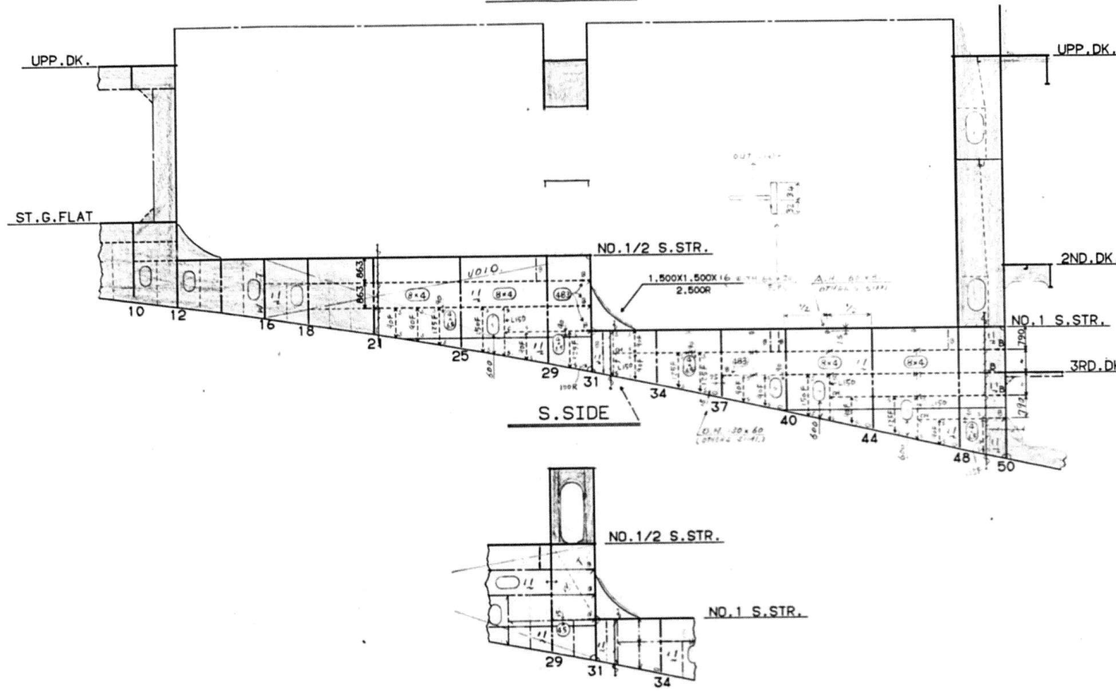
FRAME SPACE 750 800

2101015 - 8/

DL.10 S.GIR.

DL 10 SIDE GIR.

8,136 OFF CR.L.



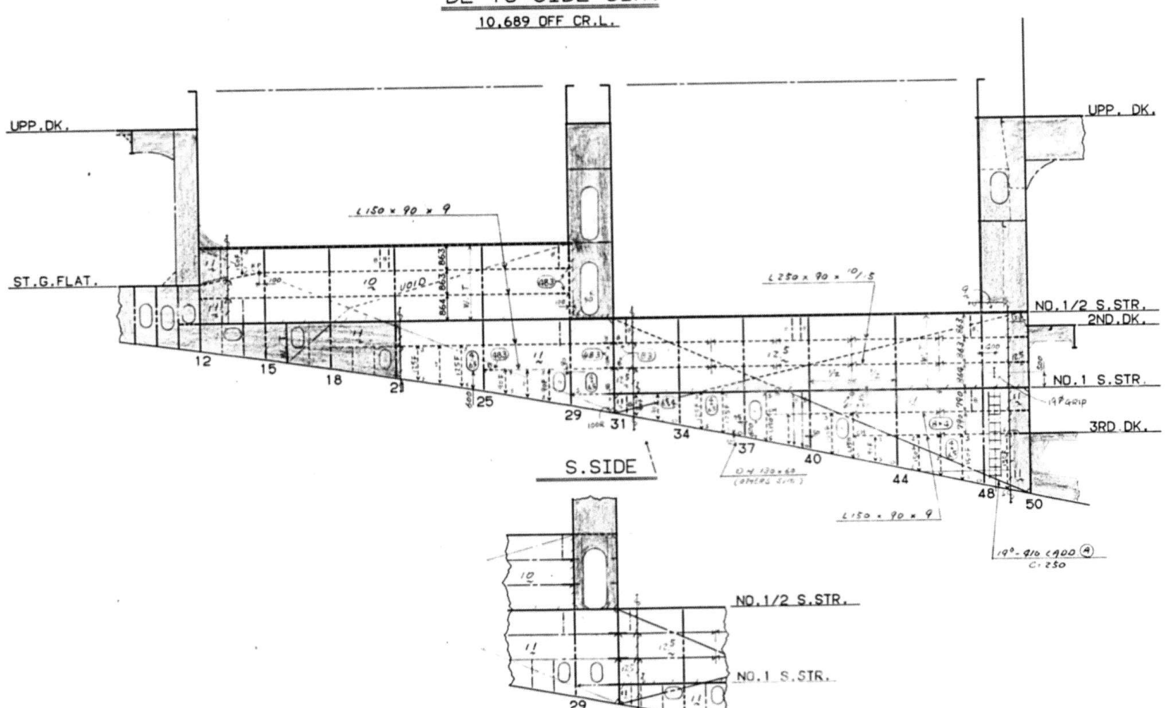
FRAME SPACE	750	800
SIDE GIR.STIFF.	L 150 X 90 X 9	

2101015 - 9/

DL 13 SIDE GIR.

DL 13 SIDE GIR.

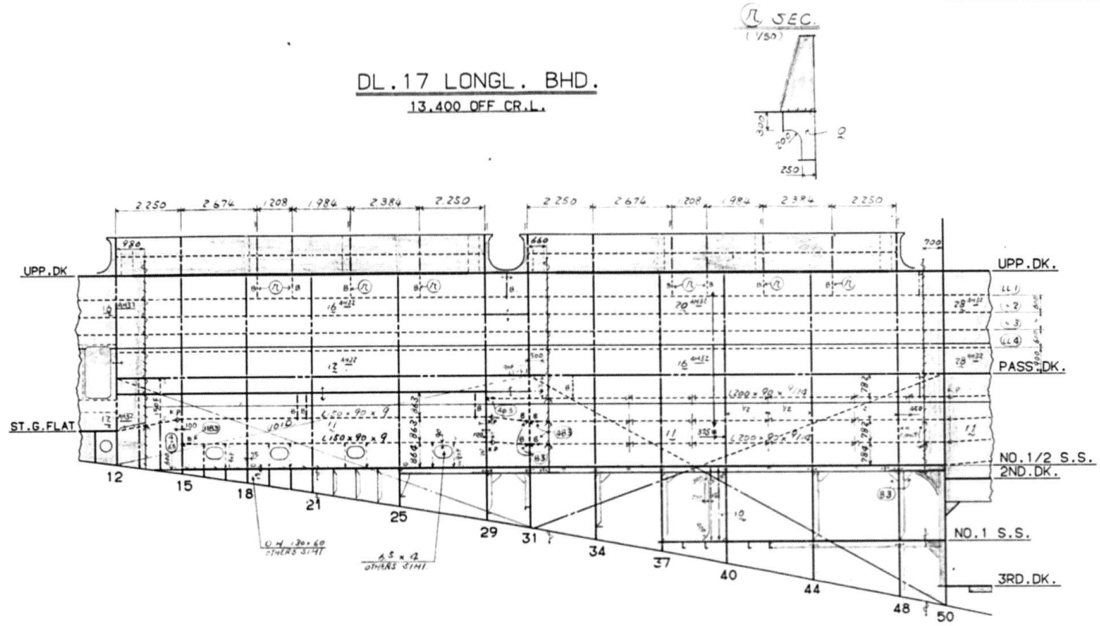
10,689 OFF CR.L.



FRAME SPACE	750	800

2101015 - 10/

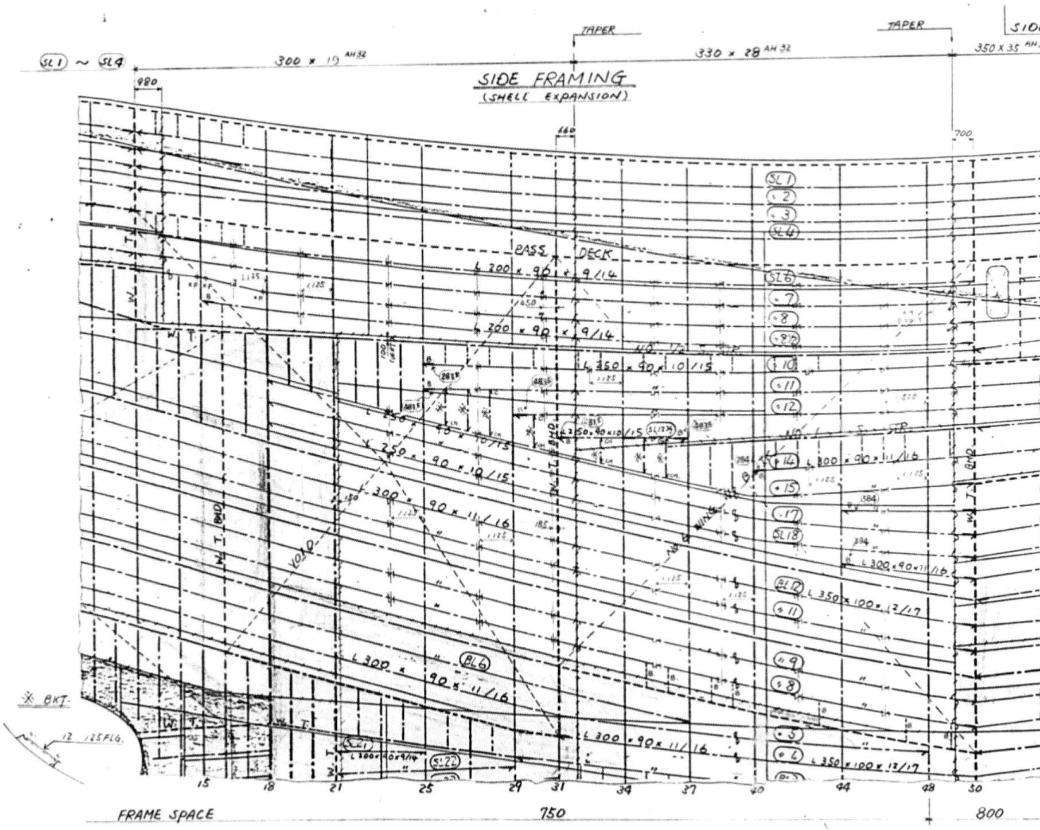
DL.17 LONG.BHD.



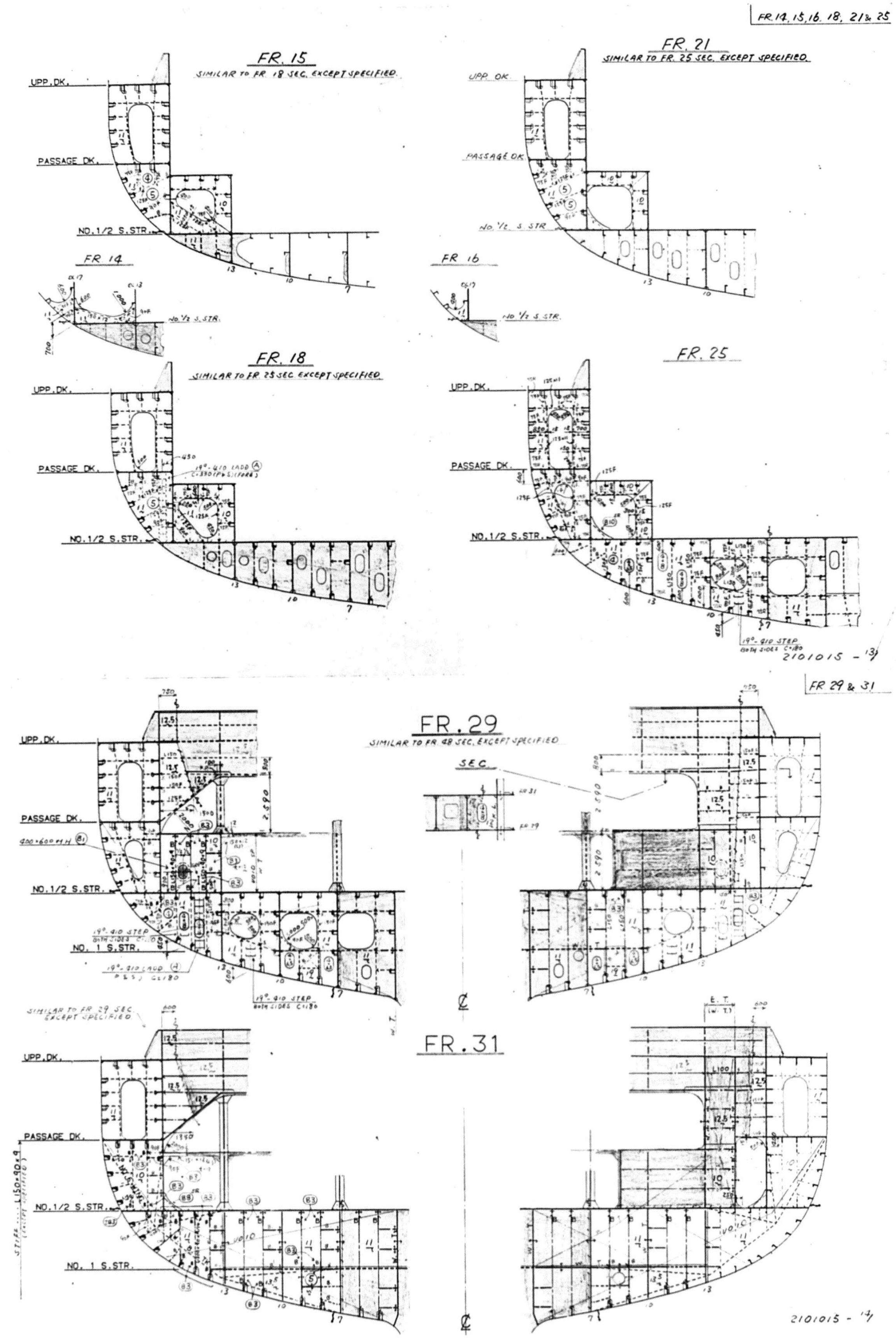
FRAME SPACE	750		800
LONGL. BHD. LONGL. (LL.1)	300 X 19 AH32 F.B.	300 X 19 AH32 F.B.	300 X 25 AH32 F.B.
〃 〃 (LL.2)～(LL.4)	300 X 19 AH32 F.B.	330 X 28 AH32 F.B.	350 X 35 AH32 F.B.
		TAPER	TAPER

2101015 - 1/1

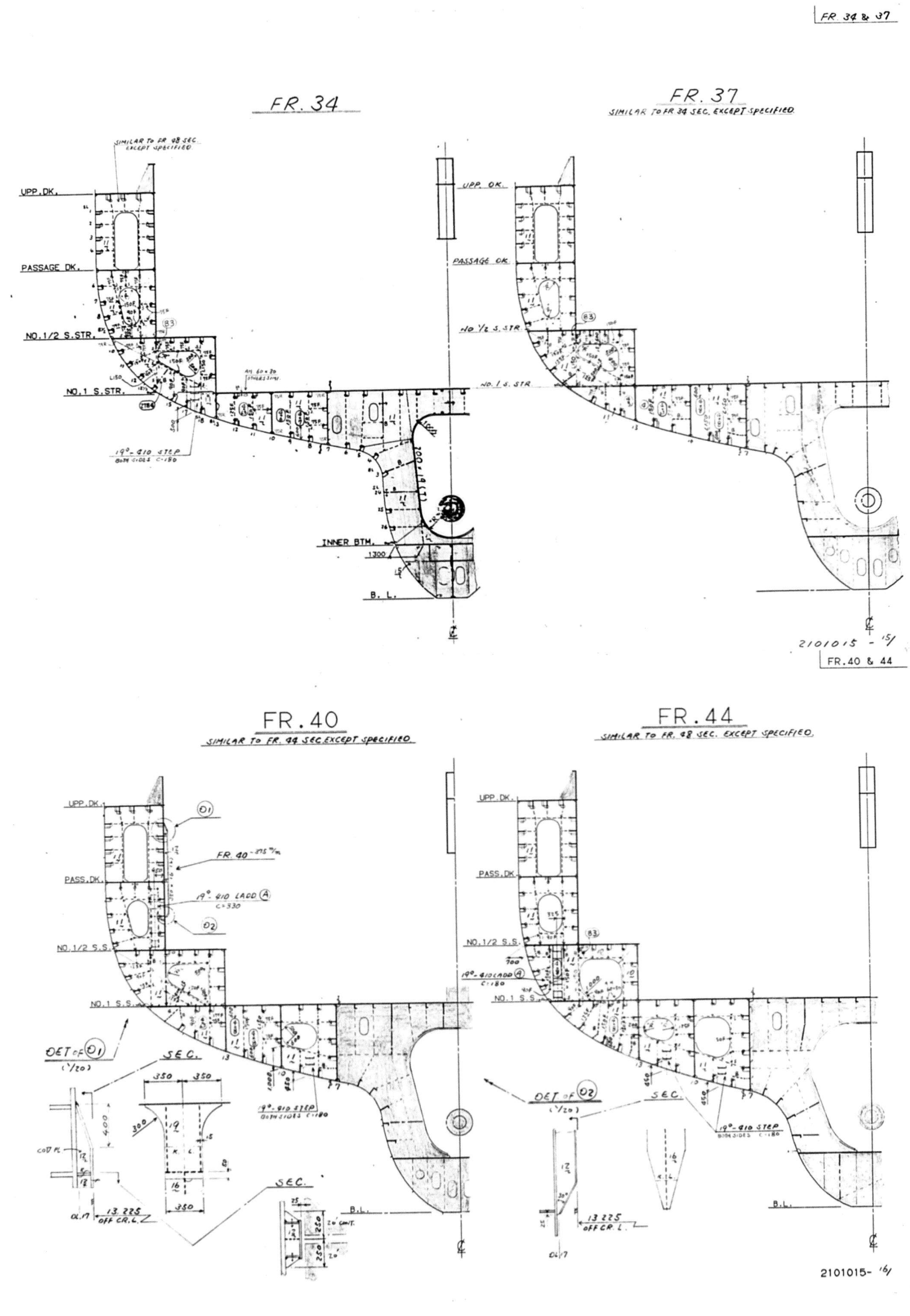
SIDE FRAMING



2101015 - 1/1



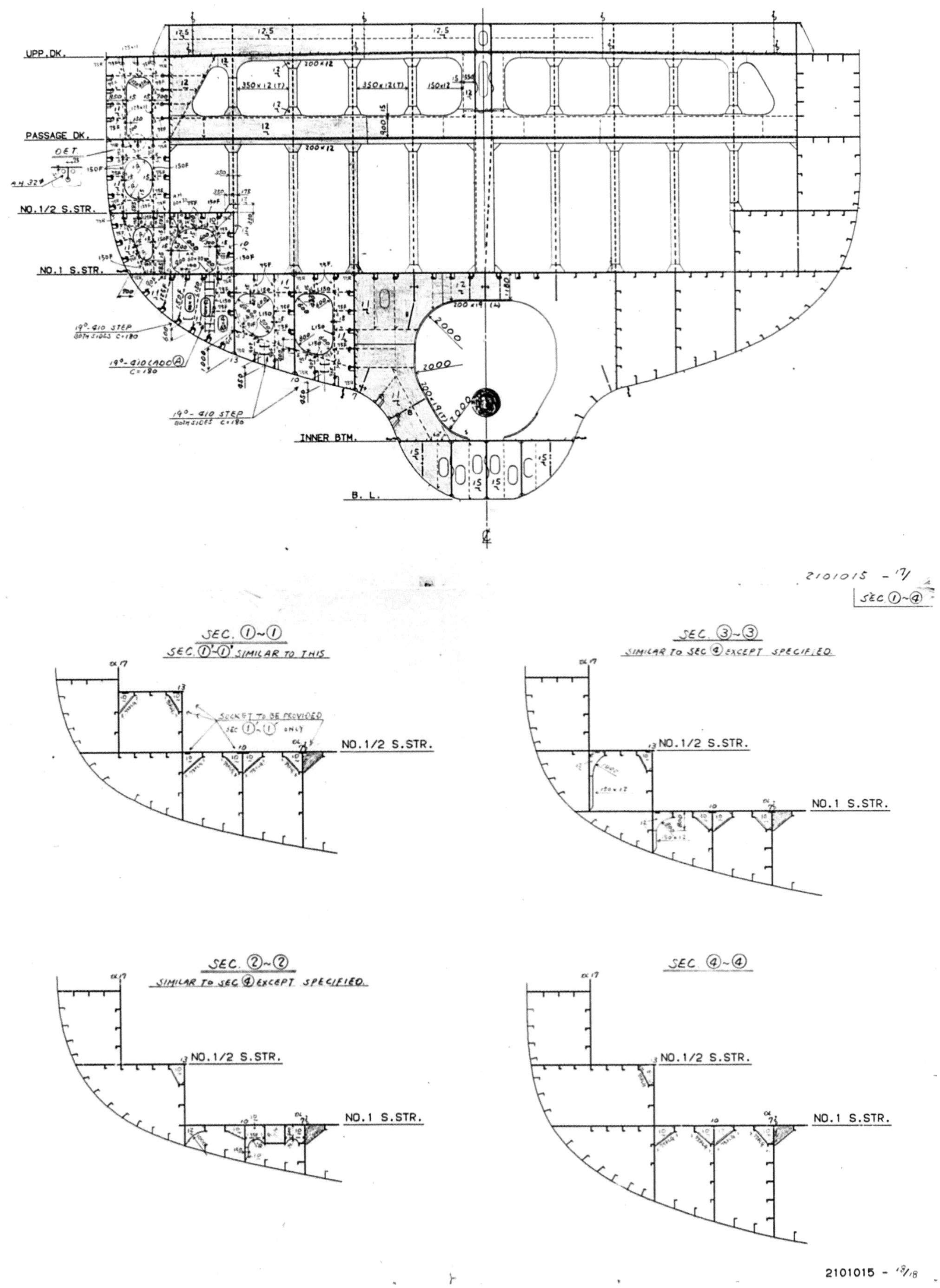
FR.14, 15, 16. 18, 21 & 25
FR. 15
SIMILAR TO FR. 18 SEC. EXCEPT SPECIFIED.
UPP. DK.
PASSAGE DK.
NO. 1/2 S. STR.
FR. 14
NO. 1/2 S. STR.
FR. 21
SIMILAR TO FR. 25 SEC. EXCEPT SPECIFIED.
UPP. DK.
PASSAGE DK.
NO. 1/2 S. STR.
FR. 16
NO. 1/2 S. STR.
FR. 18
SIMILAR TO FR. 25 SEC. EXCEPT SPECIFIED.
UPP. DK.
PASSAGE DK.
NO. 1/2 S. STR.
FR. 25
UPP. DK.
PASSAGE DK.
NO. 1/2 S. STR.
19°- 910 STEP
BOTH SIDES C=180
2101015 - 13
FR 29 & 31
FR. 29
SIMILAR TO FR. 48 SEC. EXCEPT SPECIFIED
SEC.
UPP. DK.
PASSAGE DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
19°- 910 STEP
BOTH SIDES C=180
FR. 31
SIMILAR TO FR. 29 SEC. EXCEPT SPECIFIED
UPP. DK.
PASSAGE DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
E. T.
(W. T.)
2101015 - 14


FR 34 & 37
FR. 34
FR. 37
SIMILAR TO FR 34 SEC. EXCEPT SPECIFIED
SIMILAR TO FR 48 SEC. EXCEPT SPECIFIED
UPP. DK.
PASSAGE DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
19° - 410 STEP
BOTH SIDES C-180
200 x 19 (T)
INNER BTM.
1300
B. L.
UPP. DK.
PASSAGE DK.
NO 1/2 S. STR
NO. 1 S. STR
2101015 - 15/
FR. 40 & 44
FR. 40
SIMILAR TO FR. 44 SEC. EXCEPT SPECIFIED
FR. 44
SIMILAR TO FR. 48 SEC. EXCEPT SPECIFIED
UPP. DK.
PASS. DK.
NO. 1/2 S.S.
NO. 1 S.S.
FR. 40 - 375 m/m
19° - 410 LADD (A)
C-330
DET. OF (D1)
(1/20)
SEC.
350
400
300
COT PL
13.225
OFF CR. L.
19° - 410 STEP
BOTH SIDES C-180
DET. OF (D2)
(1/20)
19° - 410 LADD (A)
C-180
B. L.
2101015- 16/

286

FR. 48

FR. 48



2101015 - 17/18

SEC ①~④

2101015 - 18/18

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN	APR. 23 '85	
-10	A	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION OF MHI BUILDING SHIPS. 1. SHIFTED BLOCK BUTT JOINTS ON CONTAINER SUPPORT CONSTRUCTION IN WAY OF LONGL BULKHEAD. 2. MODIFIED SHAPE OF SLOTS ON WEB IN PASSAGE WAY FROM TYPE AM (WITH COLLAR PL, TYPE AM) TO TYPE BM. (REFER TO MIDSHIP SECTION) BASED DWG : MES DWG NO. 2101015 (INCL. PARTLY REVISED PLAN NO. 1)	JUL. 5. '85	H.Ko
-11		FOLLOWED MES PARTLY REVISED PLAN NO. 2	JUL. 31. '85	H.Ko
-12		Do. NO. 3	OCT. 4. '85	H.Ko
-13	B	MODIFIED SIZE OF FACE PLATE ON CORNER BRACKET AT FR. 31 TO KEEP CLEARANCE BETWEEN CELL. GUIDE AND FACE PLATE.	FEB. 7 '86	H.Ko
-F	—	PREPARED AS FINISHED PLAN FOR S. No. 1158	MAR. 11. '87	H.Ko

24 SHEETS WITH COVER

SHIP DESIGNING DEPARTMENT
HULL DESIGNING SECTION

CLASS ABS

APPROVED S. Hirayama / H. Kokasa
CHECKED S. Furuhashi

貨物倉構造（第6倉）
CARGO HOLD CONSTRUCTION
(NO. 6 HOLD)

ORDER 01-15800 ~~01-18000~~ ~~01-16400~~

DRAWING NO. HS-11450-F

LYKES REF. NO. 110606

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	16 MAY '85	OFT/MES-393						

SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
~~NO. 1323~~	~~DOCTOR LYKES~~	NO. 1158	JAMES LYKES
~~NO. 1324~~	~~ALMERIA LYKES~~	~~NO. 1159~~	~~JOSEPH LYKES~~
~~NO. 1325~~	~~TILLIE LYKES~~	~~NO. 1164~~	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — STRUCTURE DESIGN SEC.

PARTLY REVISED PLAN NO. 3

N. Yamamoto

貨物倉構造（第6倉）
CARGO HOLD CONSTRUCTION
(NO. 6 HOLD)

SCALE 1/100 — LYKES REF. NO. 110606 — MITSUI DRAWING NO. 2101015-3

(3 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS.	Mar. 29 '85
1	1	OWN'T REG. LTR. NO. OFTS/MES-393 DATED 16TH MAY '85	JUN. 6 '85
	1	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	J.m
2	2	REVISED ACCORDING TO ABS REQ.	JULY 19 '85
	2	MISCELLANEOUS REVISION	H.Y
3	3	MISCELLANEOUS REVISION	SEPT. 25 '85 Y.O.

DWG. NO. 2101015-3-1/2

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は捩面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番2100811）」を参照のこと。
4. 溶接脚長については，特記の他は「溶接脚長表（図番2100832）」を参照のこと。

2101015-2/

ATTENTION!

FILM NO. 287 (JUST BEFORE) IS WRONG.

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN	APR. 23 '85	
-10	A	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION OF MHI BUILDING SHIPS. 1. SHIFTED BLOCK BUTT JOINTS ON CONTAINER SUPPORT CONSTRUCTION IN WAY OF LONGL BULKHEAD. 2. MODIFIED SHAPE OF SLOTS ON WEB IN PASSAGE WAY FROM TYPE AM (WITH COLLAR PL. TYPE AMI) TO TYPE BM. (REFER TO MIDSHIP SECTION) BASED DWG : MES DWG NO. 2101015 (INCL. PARTLY REVISED PLAN NO. 1)	JUL. 5. '85	
-11		FOLLOWED MES PARTLY REVISED PLAN NO. 2	JUL. 31. '85	
-12		Do. NO. 3	OCT. 4. '85	
-13	B	MODIFIED SIZE OF FACE PLATE ON CORNER BRACKET AT FR. 31 TO KEEP CLEARANCE BETWEEN CELL. GUIDE AND FACE PLATE.	FEB. 7 '86	
-F	—	PREPARED AS FINISHED PLAN FOR S. NO. 1158	MAR. 11 '87	

20 SHEETS WITH COVER

SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION

APPROVED S. Hirayama, H. Kokawa — CHECKED S. Furuhashi — CLASS ABS

貨物倉構造（オ6倉）
CARGO HOLD CONSTRUCTION (NO. 6 HOLD)

ORDER 01-15800 ~~01-16000~~ ~~01-16400~~ — DRAWING NO. HS-11450-F — LYKES REF. NO. 110606

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	16 MAY '85	OFT/MES-393						

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SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
NO. 1323	~~DOCTOR LYKES~~	NO. 1158	JAMES LYKES
NO. 1324	~~ALMERIA LYKES~~	NO. 1159	~~JOSEPH LYKES~~
NO. 1325	~~TILLIE LYKES~~	NO. 1164	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER — STRUCTURE DESIGN SEC. — SECT. CHIEF N. Yamamoto — ASSIST CHIEF — CHARGE ENG'R — STAFF

PARTLY REVISED PLAN NO. 3

貨物倉構造（オ6倉）
CARGO HOLD CONSTRUCTION (NO. 6 HOLD)

DATE 1.40 '85 (TEL. 2138) — JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 110606 — MITSUI DRAWING NO. 2101015-3

(3 SHEETS WITH COVER)

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS.	MAY 29 '85
1	1	OWN'S REQ. LTR. NO. OFTS/MES-393 DATED 16TH MAY '85	JUN. 6 '85
	1	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	J.M.
2	2	REVISED ACCORDING TO ABS REQ.	JULY 19 '85
	2	MISCELLANEOUS REVISION	H.Y.
3	3	MISCELLANEOUS REVISION	SEPT 26 '85 T.O.

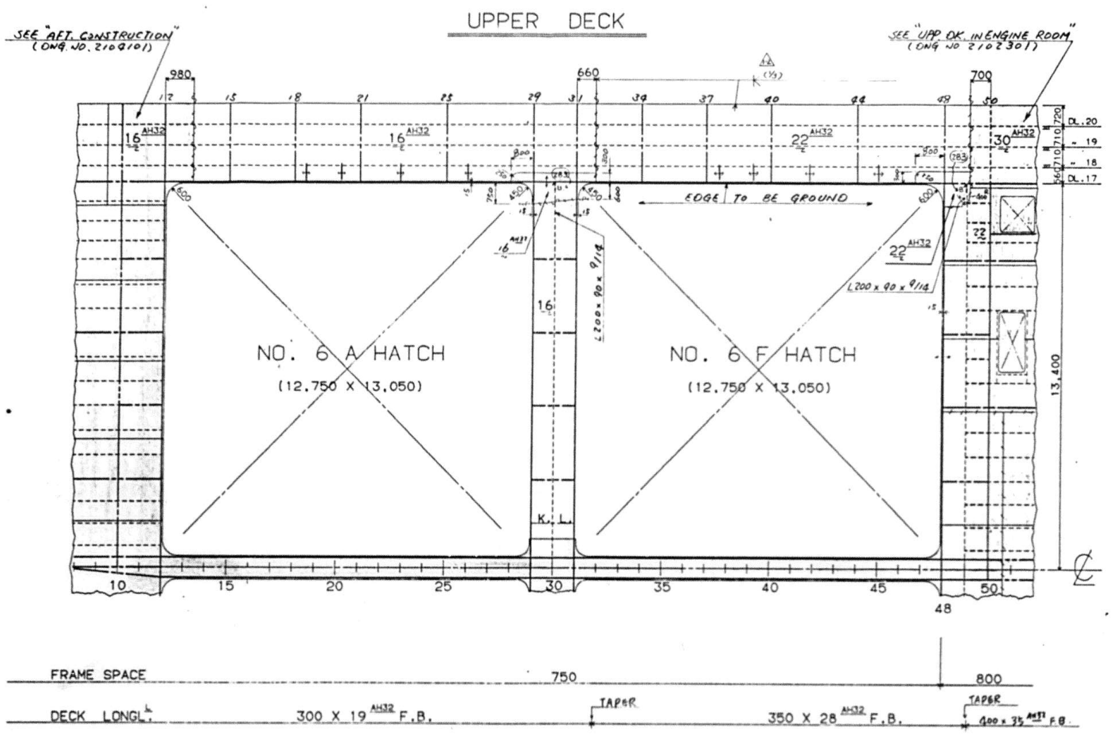
DWG. NO. 2101015-3-1/2

備 考：-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は'構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は'溶接脚長表（図番2100832）'を参照のこと。

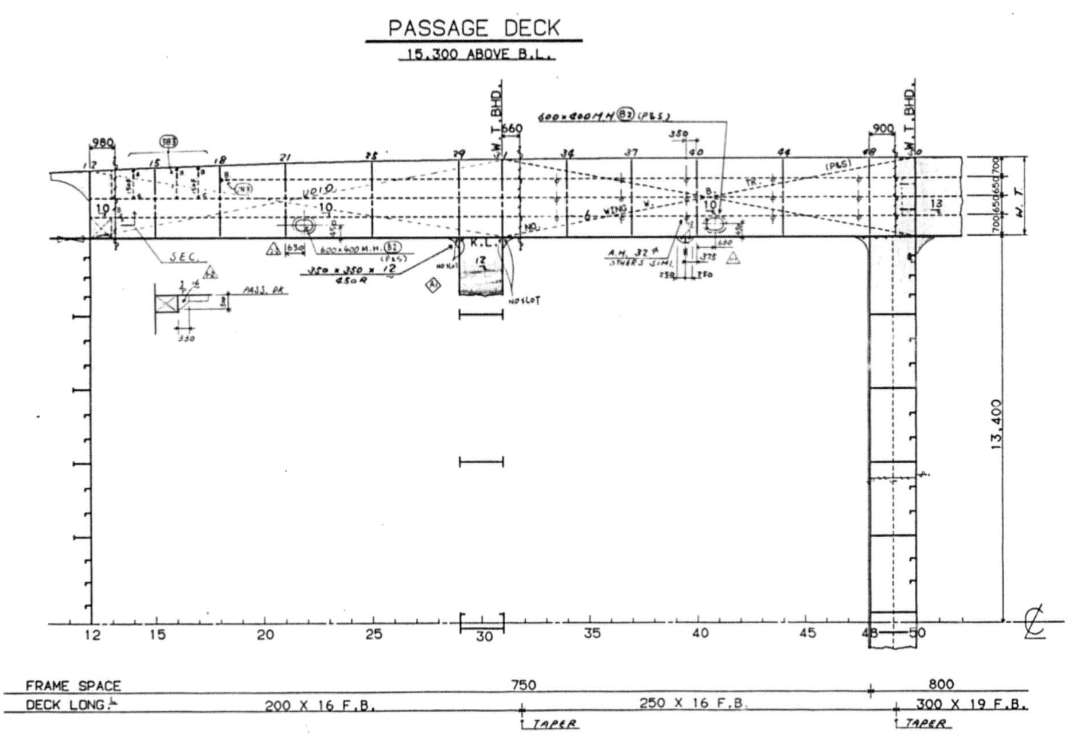
2101015-2/

UPP.DK.



2101015 - 31

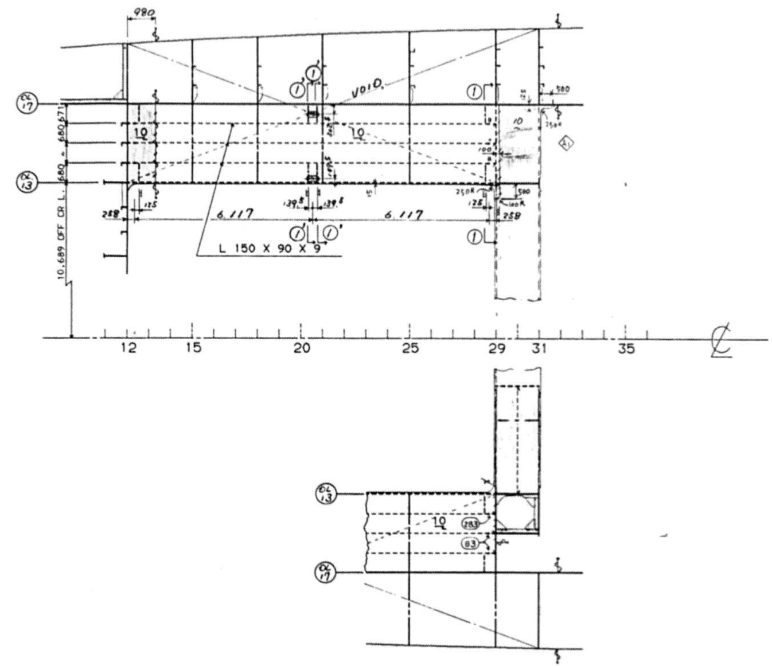
PASSAGE DECK



2101015 - 41

14,760 ABOVE B.L.

14,760 ABOVE B.L.



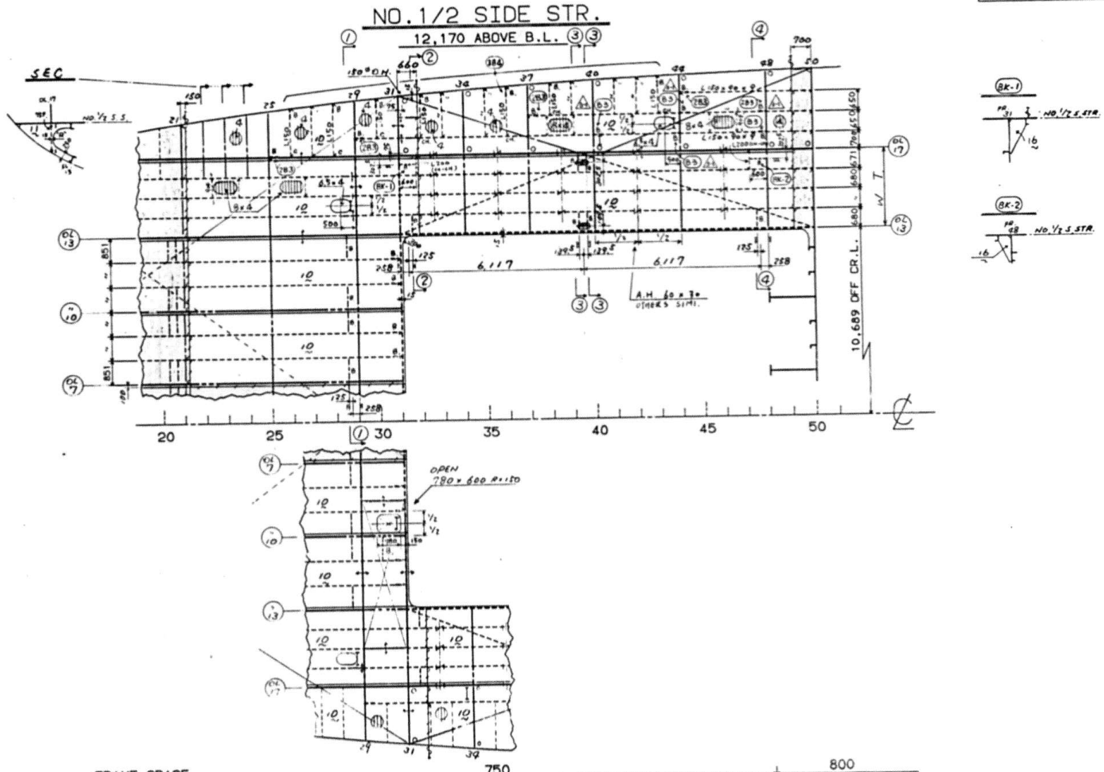
FRAME SPACE 750

2101015 - 5/

NO.1/2 S.STR.

NO.1/2 SIDE STR.

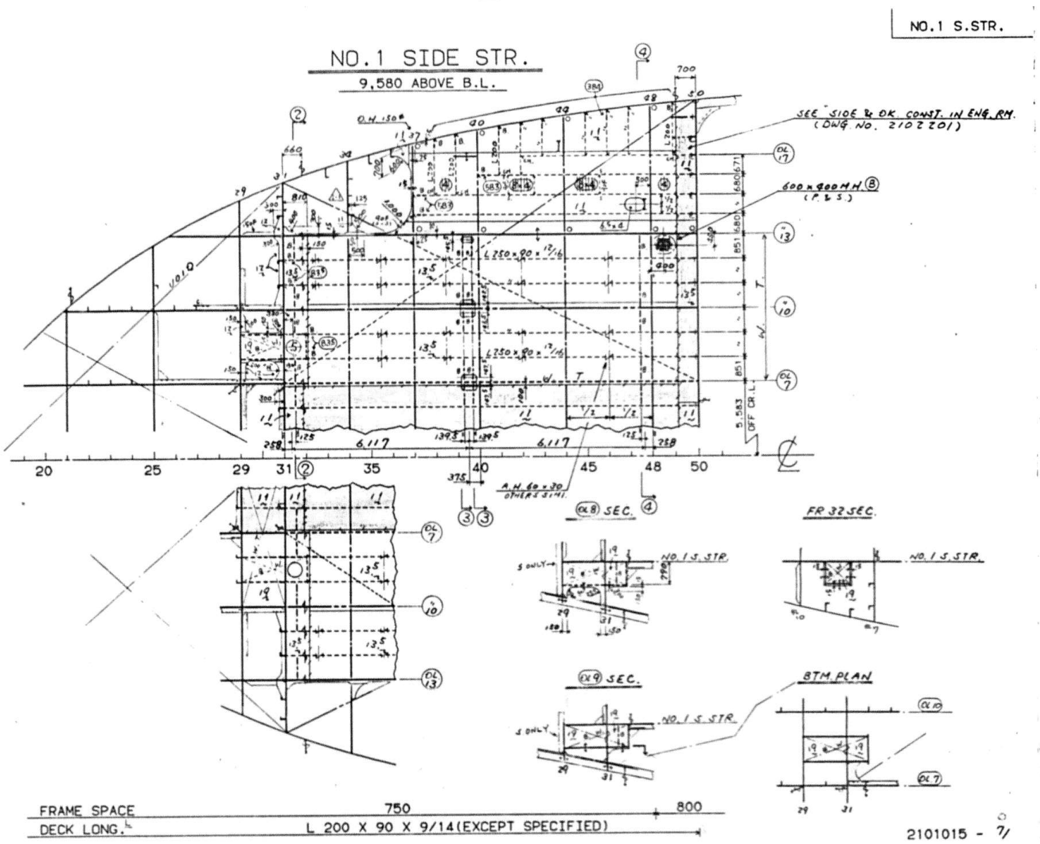
12,170 ABOVE B.L.

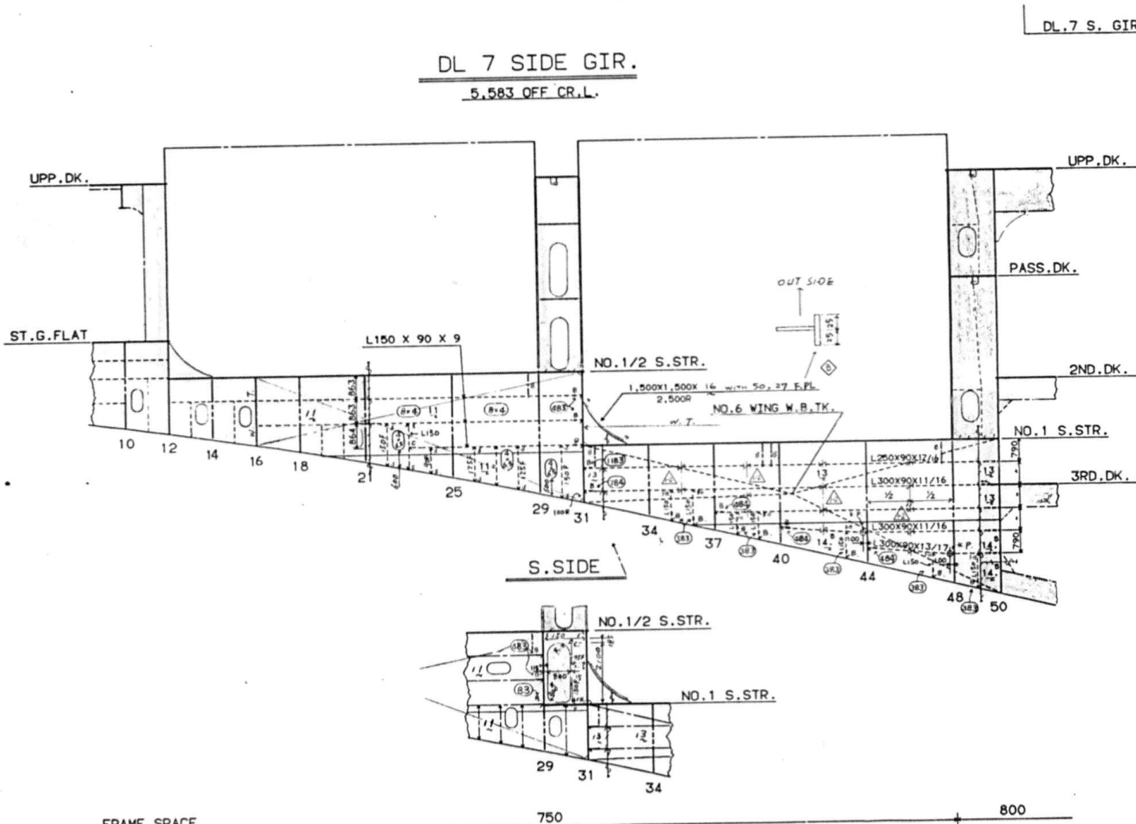


FRAME SPACE 750 800

DECK. LONG. L 200 X 90 X 9/14(EXCEPT SPECIFIED)

2101015 - 6/

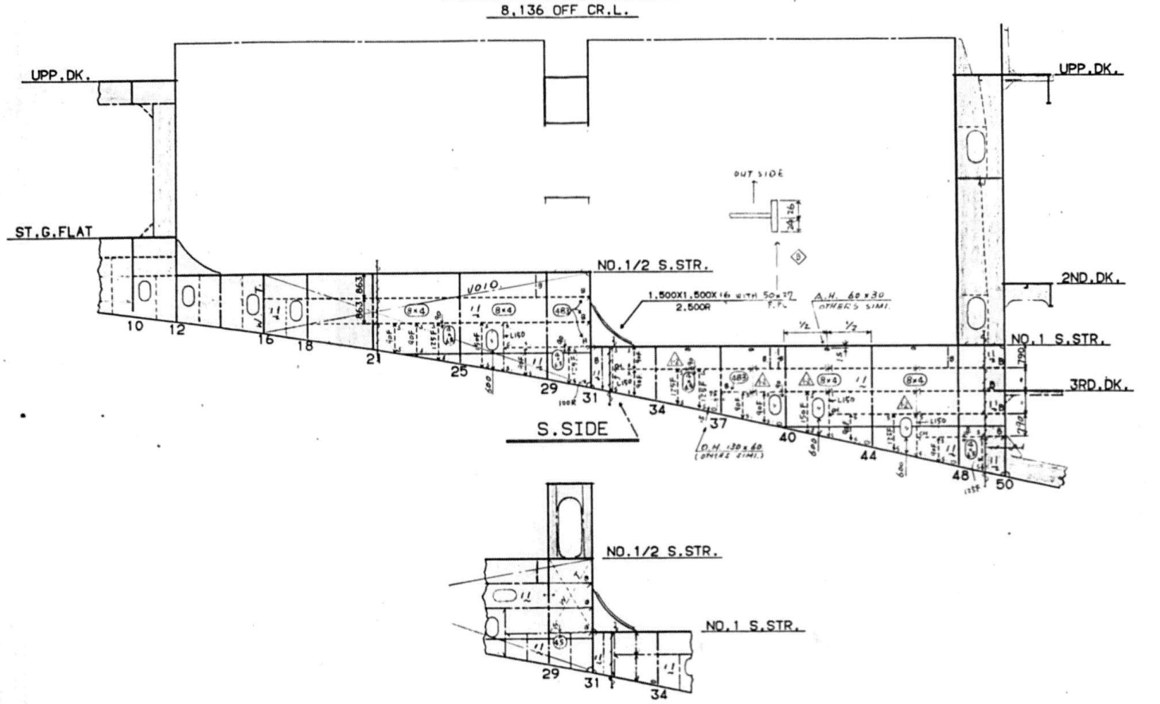

NO.1 S.STR.
NO.1 SIDE STR.
9,580 ABOVE B.L.
SEE "SIDE & DK. CONST. IN ENG. RM." (DWG NO. 2102201)
600 x 400 M.H.
6,117
A.H. 60 x 30 OTHERS SIM.
20
25
29
31
35
40
45
48
50
5,583 OFF CR.L.
SEC.
FR 32 SEC.
NO.1 S.STR.
BTM. PLAN
FRAME SPACE
750
800
DECK LONG.
L 200 X 90 X 9/14 (EXCEPT SPECIFIED)
2101015 - 7/


DL.7 S. GIR.
DL 7 SIDE GIR.
5,583 OFF CR.L.
UPP.DK.
PASS.DK.
ST.G.FLAT
2ND.DK.
NO.1 S.STR.
3RD.DK.
L150 X 90 X 9
NO.1/2 S.STR.
OUT SIDE
1,500X1,500X 16 WITH 50, 27 F.PL.
2,500R
NO.6 WING W.B.TK.
L250X90X12/16
L300X90X11/16
L300X90X13/17
10
12
14
16
18
21
25
29
31
34
37
40
44
48
50
S.SIDE
NO.1/2 S.STR.
NO.1 S.STR.
FRAME SPACE
750
800
2101015 - 8/

DL.10 S.GIR.

DL 10 SIDE GIR.

8,136 OFF CR.L.



FRAME SPACE 750 800

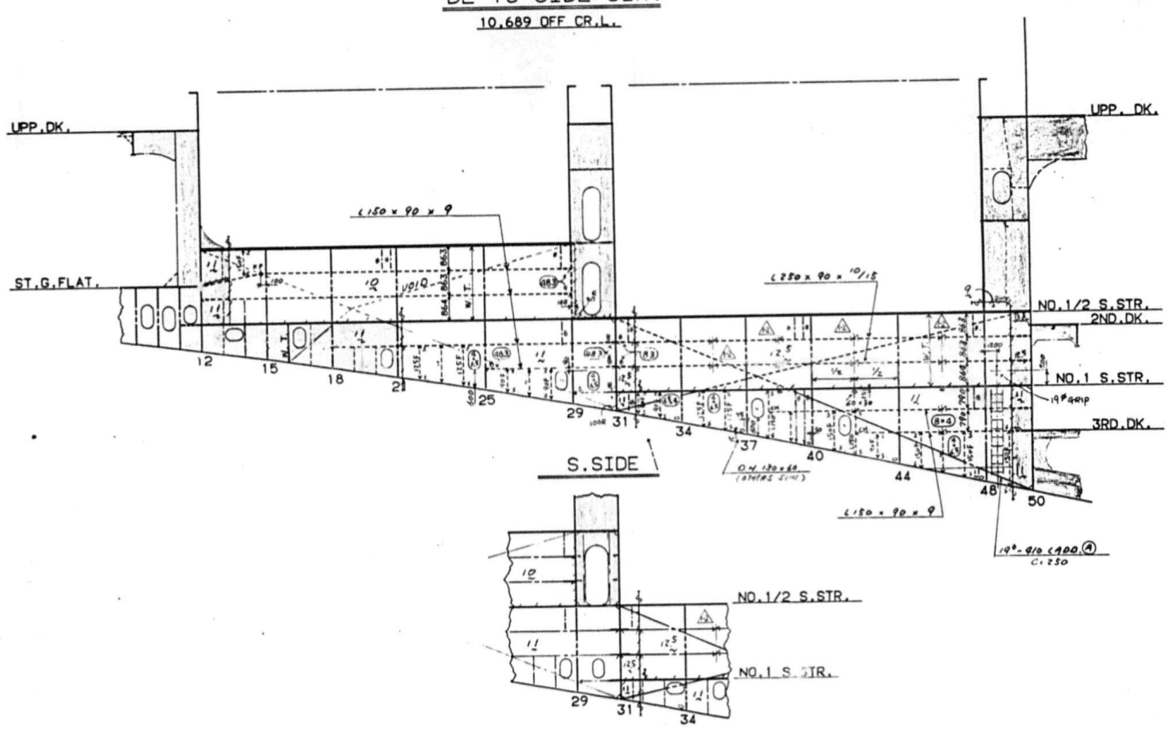
SIDE GIR.STIFF. L 150 X 90 X 9

2101015 - 9/

DL 13 SIDE GIR.

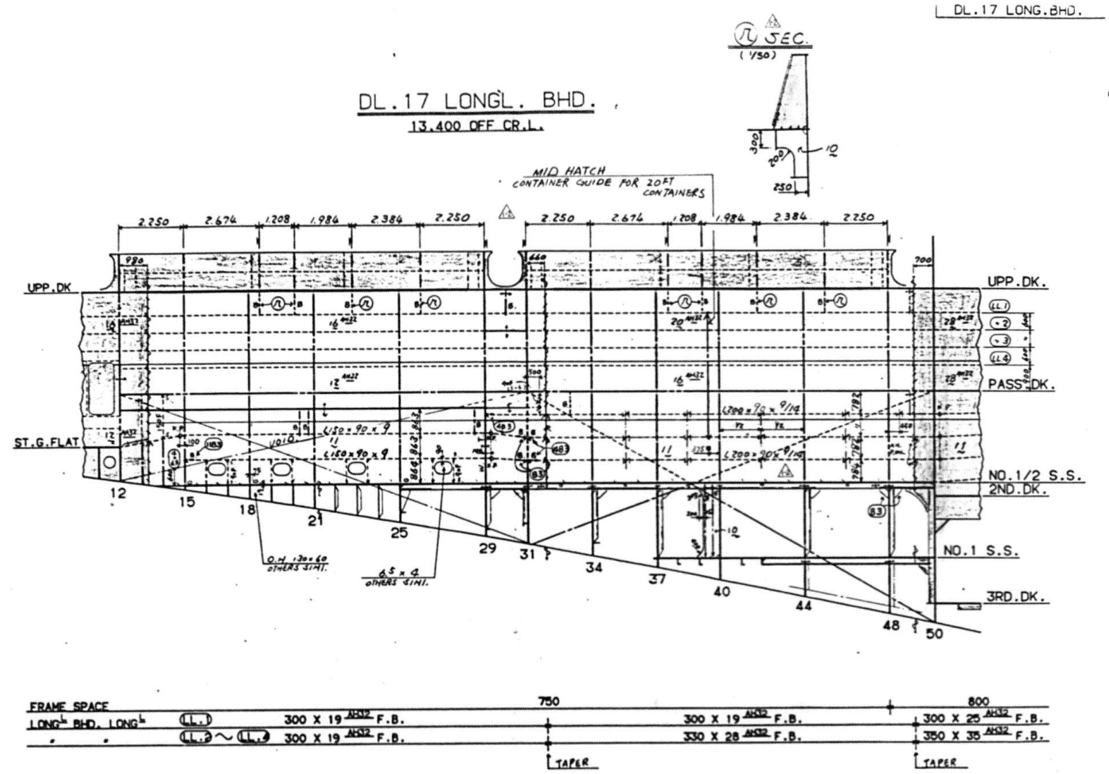
DL 13 SIDE GIR.

10,689 OFF CR.L.

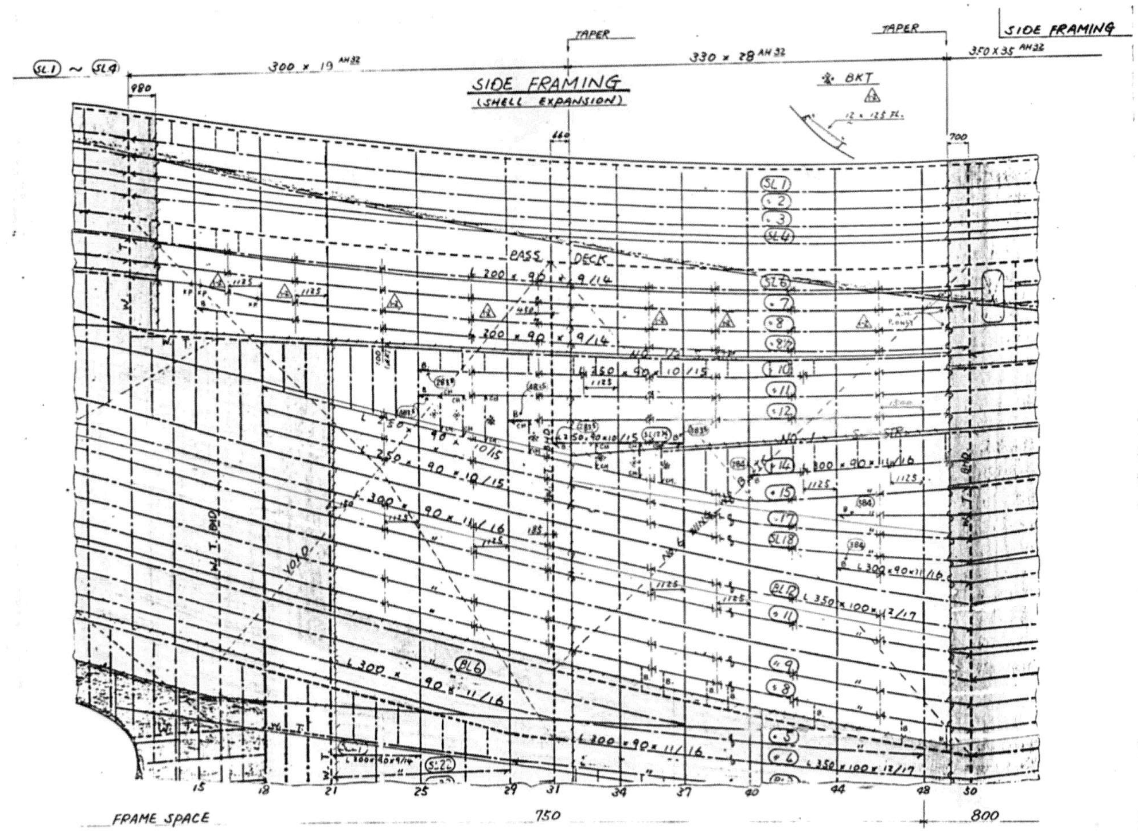


FRAME SPACE 750 800

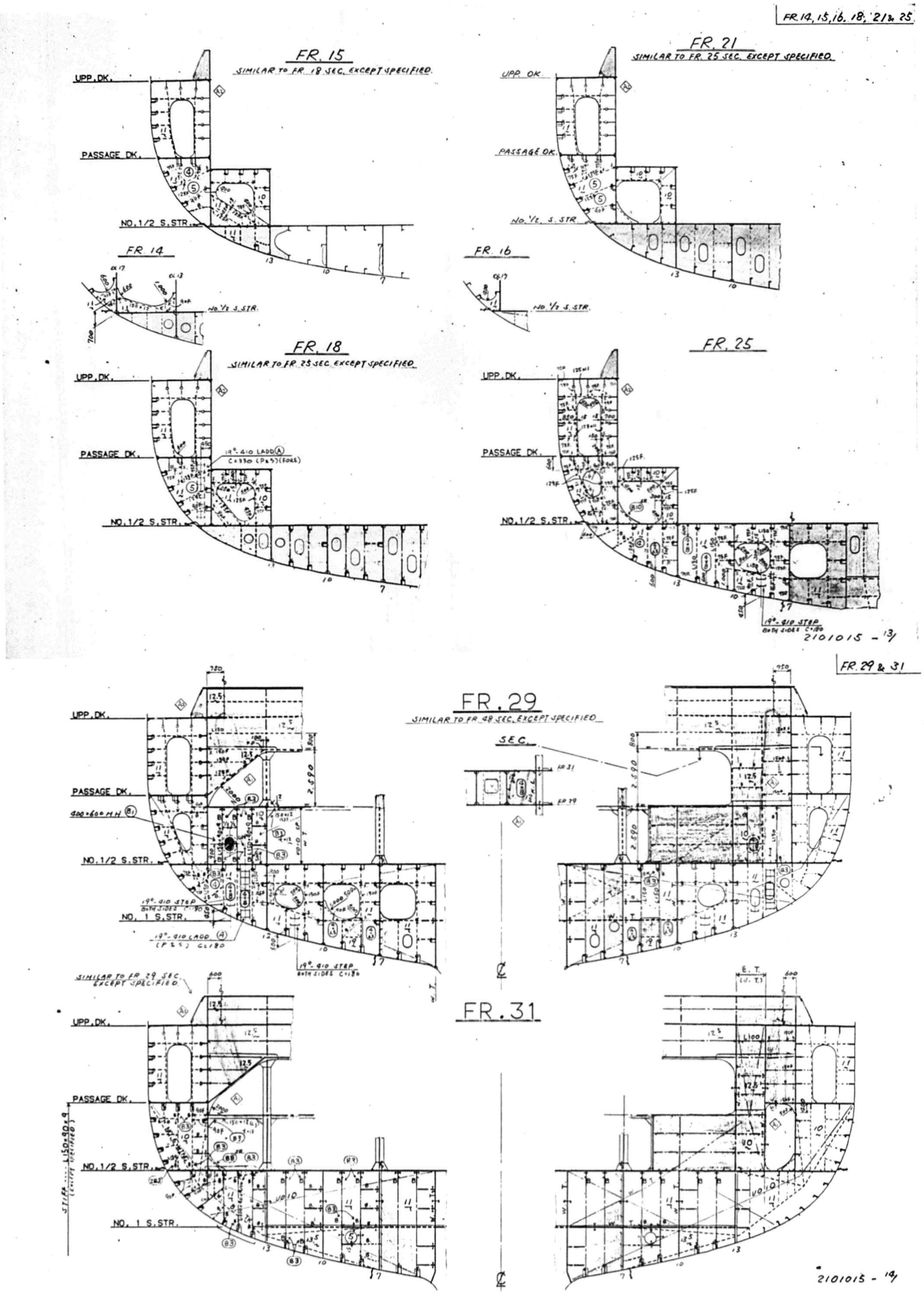
2101015 - 10/

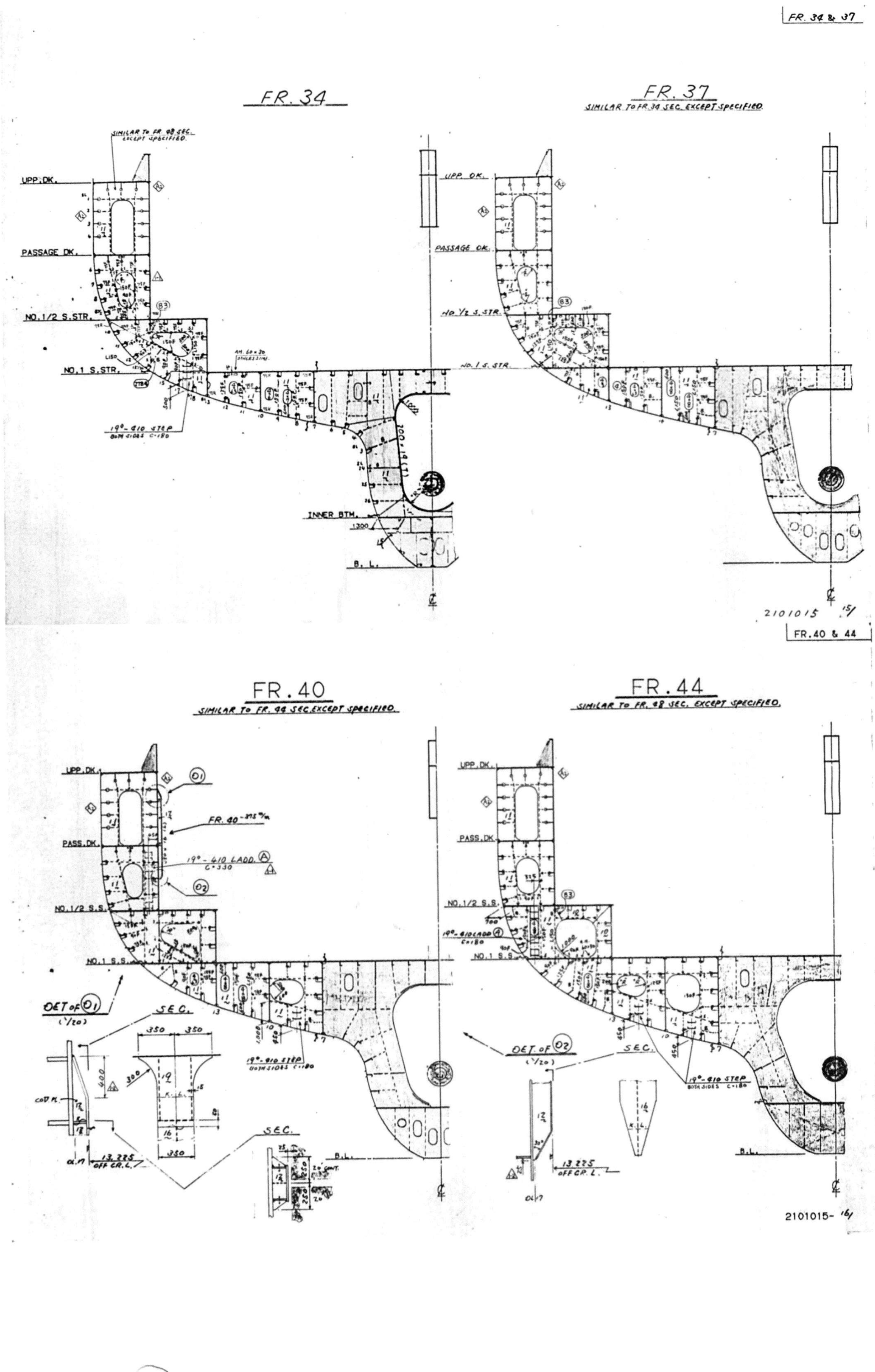


2101015 - 11

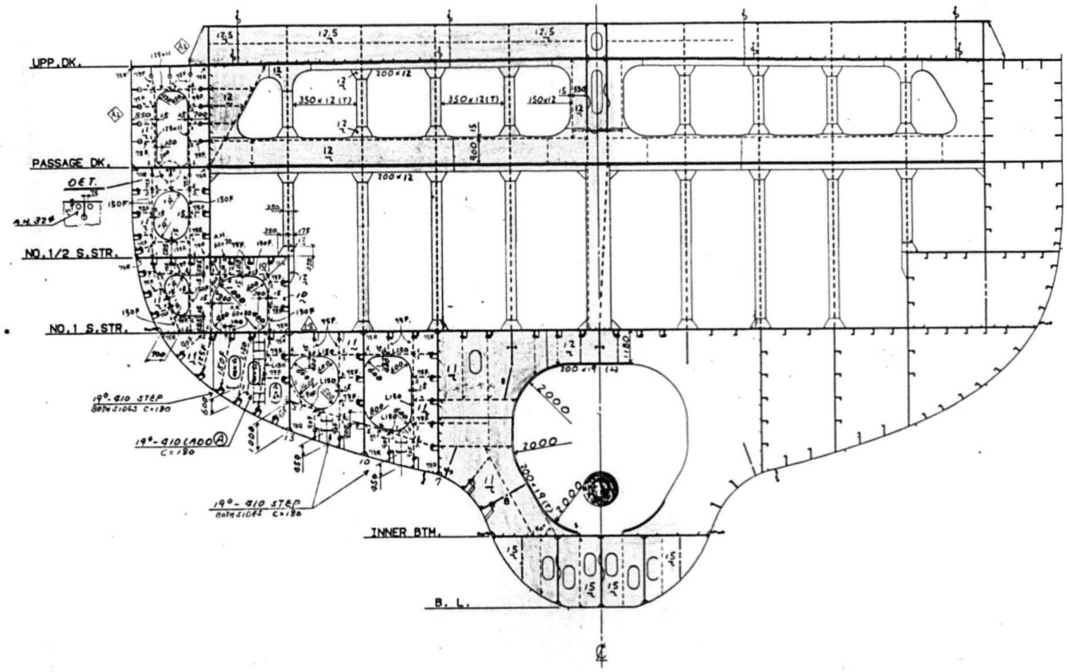


2101015 - 12


FR. 14, 15, 16, 18, 21 & 25
FR. 21
SIMILAR TO FR. 25 SEC. EXCEPT SPECIFIED
FR. 25
FR. 15
SIMILAR TO FR. 19 SEC. EXCEPT SPECIFIED
FR. 18
SIMILAR TO FR. 23 SEC. EXCEPT SPECIFIED
FR. 14
FR. 16
UPP. DK.
PASSAGE DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
2101015 - 13
FR. 29 & 31
FR. 29
SIMILAR TO FR. 28 SEC. EXCEPT SPECIFIED
SEC.
FR. 31
2101015 - 14


FR. 34 & 37
FR. 34
SIMILAR TO FR. 48 SEC. EXCEPT SPECIFIED.
UPP. DK.
PASSAGE DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
19° - 410 STEP
BOTH SIDES C=180
INNER BTM.
1300
B. L.
FR. 37
SIMILAR TO FR. 34 SEC. EXCEPT SPECIFIED.
UPP. DK.
PASSAGE DK.
NO 1/2 S. STR.
NO. 1 S. STR.
2101015 15/
FR. 40 & 44
FR. 40
SIMILAR TO FR. 44 SEC. EXCEPT SPECIFIED.
UPP. DK.
PASS. DK.
NO. 1/2 S.S.
NO. 1 S.S.
FR. 40
19° - 410 LADD.
C=330
DET. of 01
(1/20)
SEC.
350
350
400
300
19° - 410 STEP
BOTH SIDES C=180
13,225
OFF CR. L.
SEC.
B. L.
FR. 44
SIMILAR TO FR. 48 SEC. EXCEPT SPECIFIED.
UPP. DK.
PASS. DK.
NO. 1/2 S.S.
19° - 410 LADD
C=180
NO. 1 S.S.
DET. of 02
(1/20)
SEC.
19° - 410 STEP
BOTH SIDES C=180
13,225
OFF CR. L.
B. L.
2101015- 16/

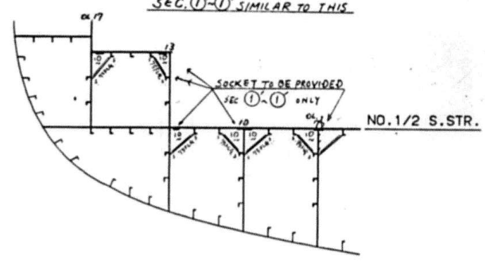
FR.48



2101015 - 17/

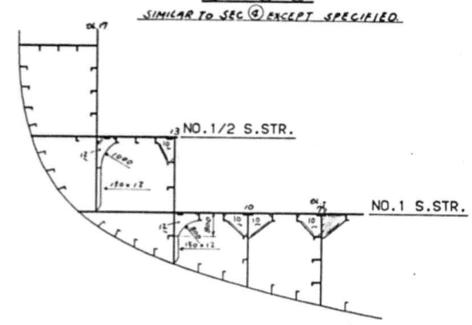
SEC. ①~①

SEC. ①'-①' SIMILAR TO THIS



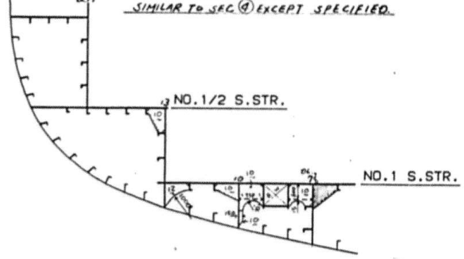
SEC. ③~③

SIMILAR TO SEC ④ EXCEPT SPECIFIED.

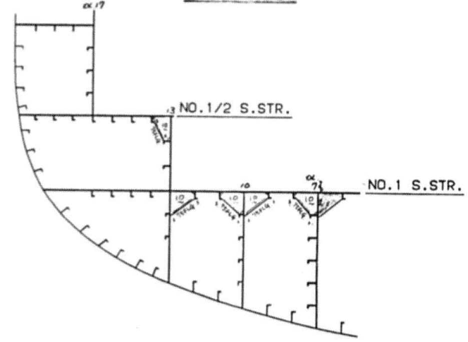


SEC. ②~②

SIMILAR TO SEC ④ EXCEPT SPECIFIED.



SEC. ④~④



2101015 - 18/18

296

ALT.NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	18APR'86	OFTY/MES-806						
1ST REV	17JUN'86	OFTY/MES-589			26JUL'86	T-8-2		
1ST PART REV	22SEP'86	TAM/74			9OCT'86	T-8-2		
2ND PART REV	4NOV'86	TAM/104			13OCT'86	T-8-2		
3RD PART REV	4NOV'86	TAM/103			13NOV'86	T-8-2		
4TH PART REV	26NOV'86	TAM/132			18DEC'86	T-8-2		
5TH PART REV	18DEC'86	TAM/137			20FEB'86	T-8-2		
6TH PART REV	2JUL'86	TAM/169						

Table: APPROVAL OF OWNER & REGULATORY BODIES

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER
STRUCTURE DESIGN SEC.
SEC. CHIEF
NOV. 14 1986
DATE (TEL 3227)

SHIP'S NO. 1325 — SHIP'S NAME **TILLIE LYKES**

機関室船側及甲板構造(2&3甲板)
SIDE & DECK CONST. IN ENG. RM. (2ND. DK. & 3RD. DK.)

JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 110607 — MITSUI DRAWING NO. 2102201

(16 SHEETS WITH COVER)

ALT. NO.	MARK	PLAN RECORD — ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO. 1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO. 1324 AND S.NO. 1325."	NOV. 28. '86

DWG.NO. 2102201 - 1/15

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

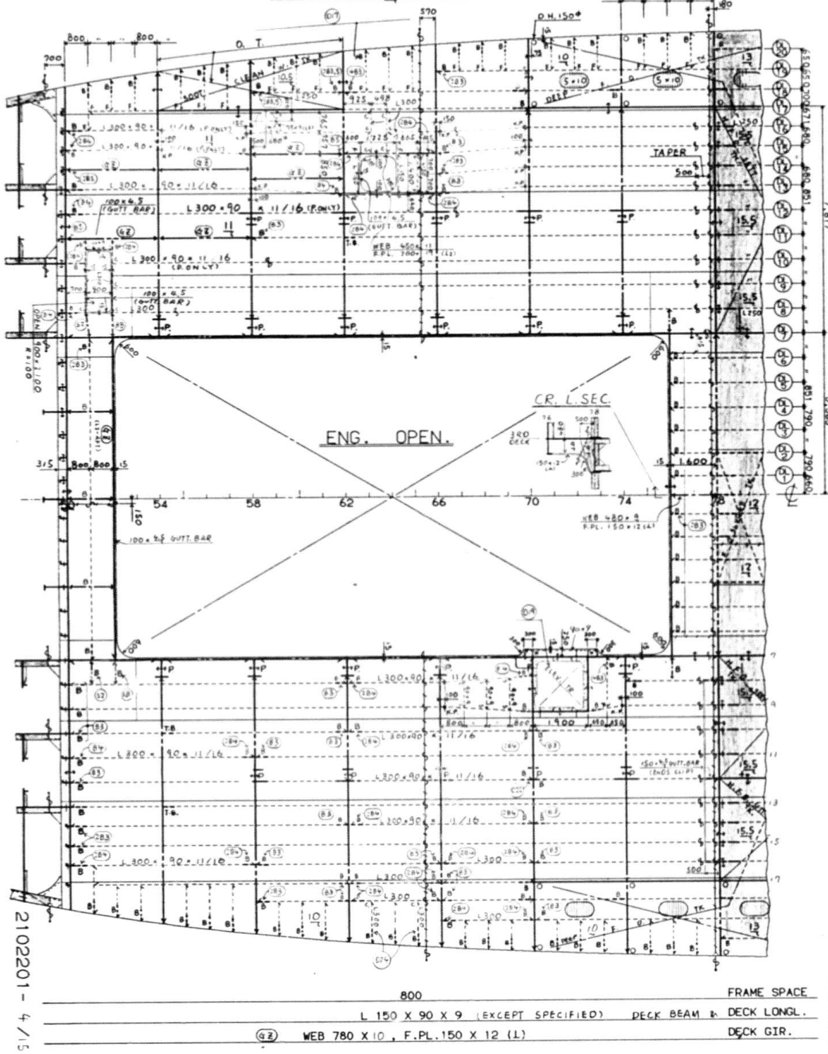
備　考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
   "構造詳細図（図番2100811）"を参照のこと。
4. 熔接脚長については，特記の他は
   "熔接脚長表（図番2100832）"を参照のこと。

3RD DECK

8,000 ABOVE B.L.

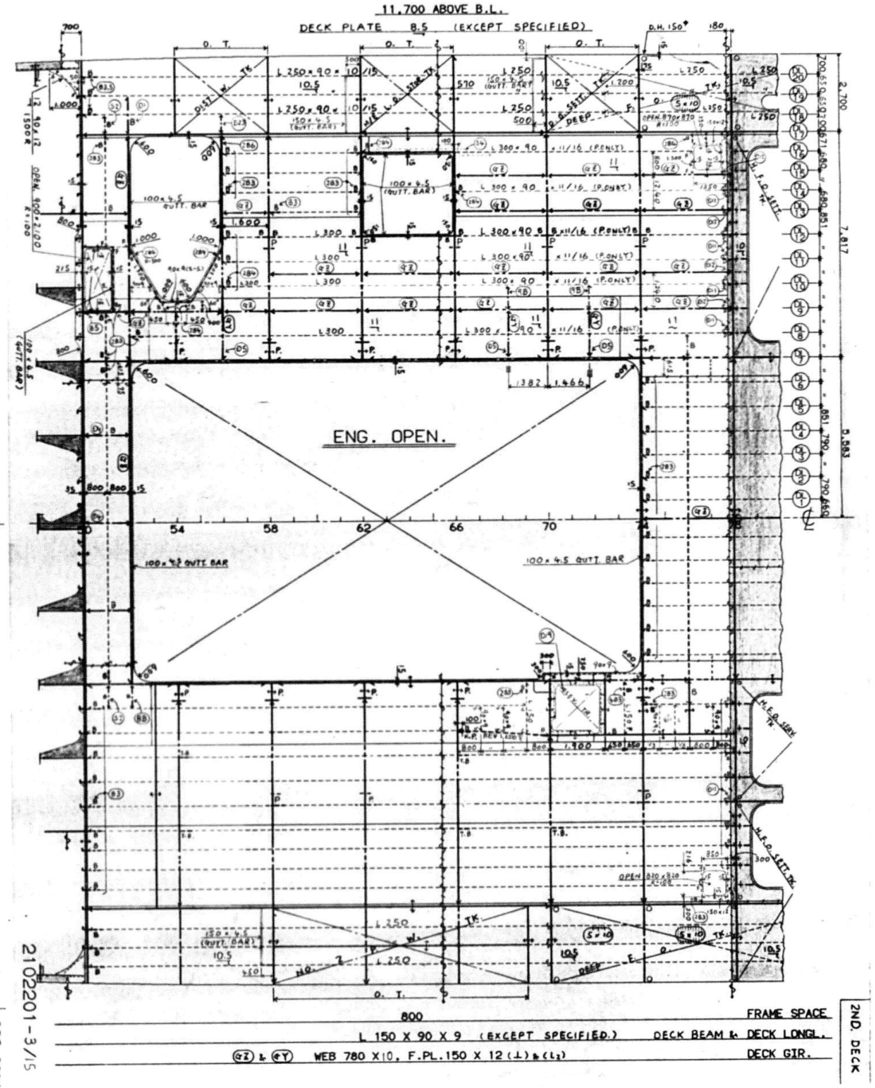
DECK PLATE 8.5 (EXCEPT SPECIFIED)



2ND DECK

11,700 ABOVE B.L.

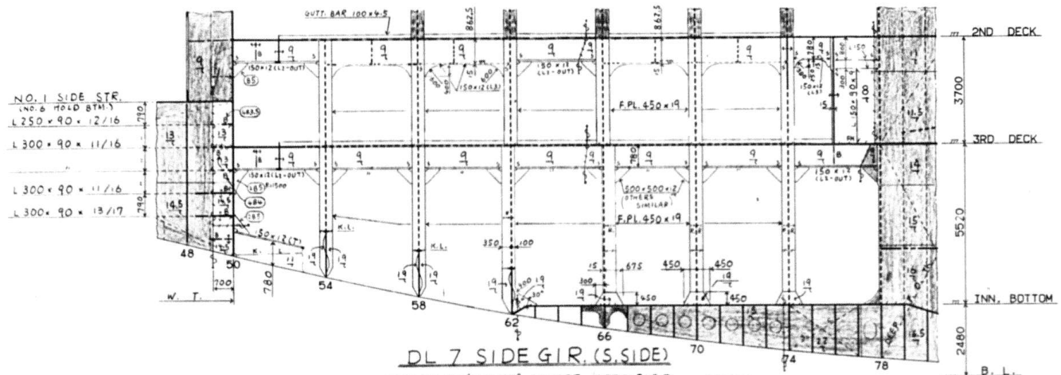
DECK PLATE 8.5 (EXCEPT SPECIFIED)



DL. 7
SIDE GIR.

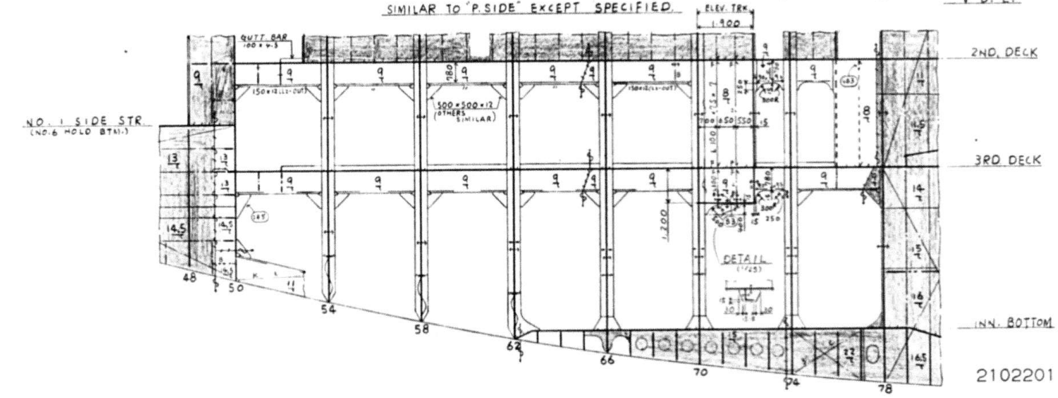
DL 7 SIDE GIR. (P.SIDE)

5583 OFF CR.LINE



DL 7 SIDE GIR. (S.SIDE)

SIMILAR TO 'P.SIDE' EXCEPT SPECIFIED

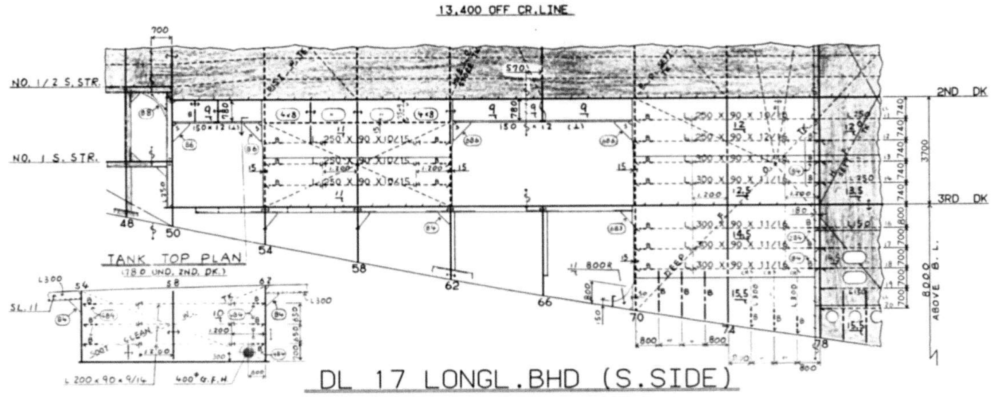


2102201- 5/15

DL 17
LONGL. BHD

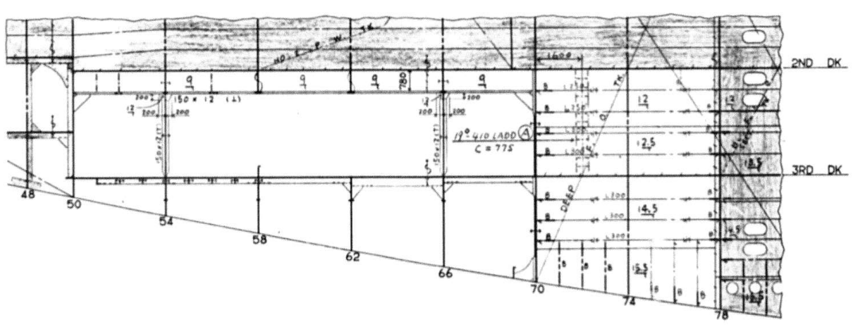
DL 17 LONGL. BHD (P.SIDE)

13,400 OFF CR.LINE



DL 17 LONGL. BHD (S.SIDE)

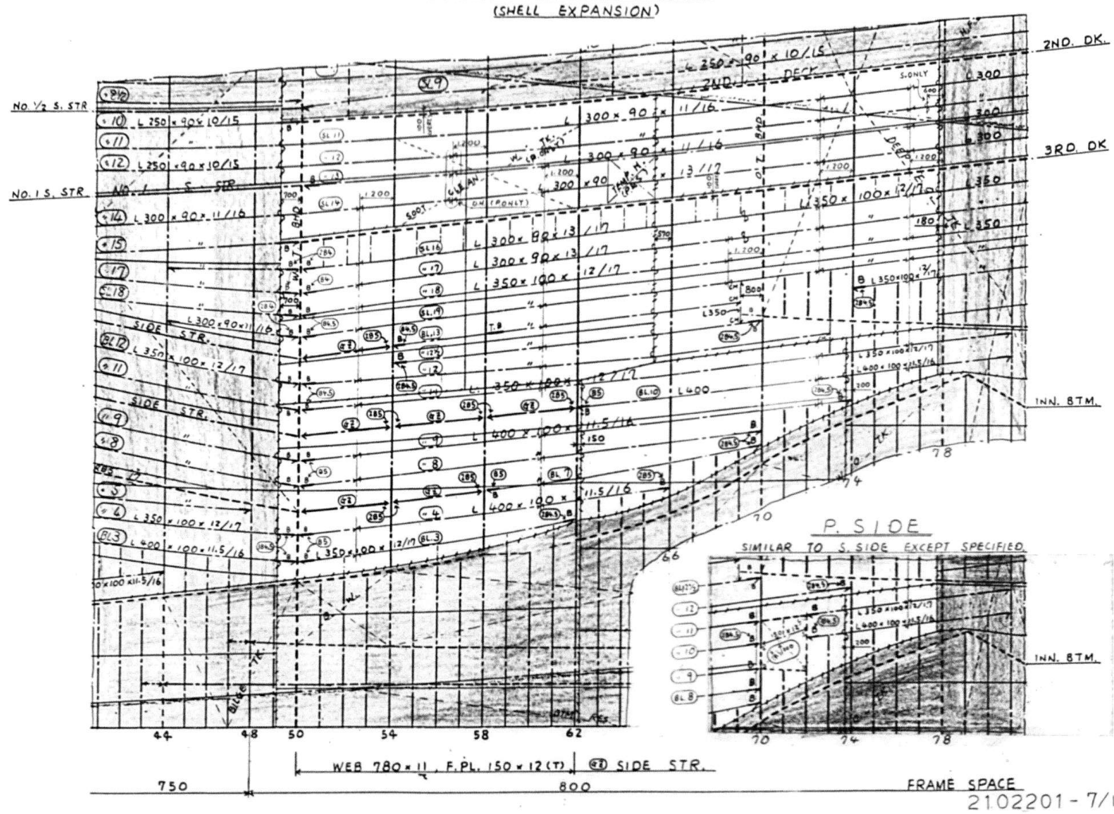
SIMILAR TO "P.SIDE" EXCEPT SPCIFIED



2102201- 6/15

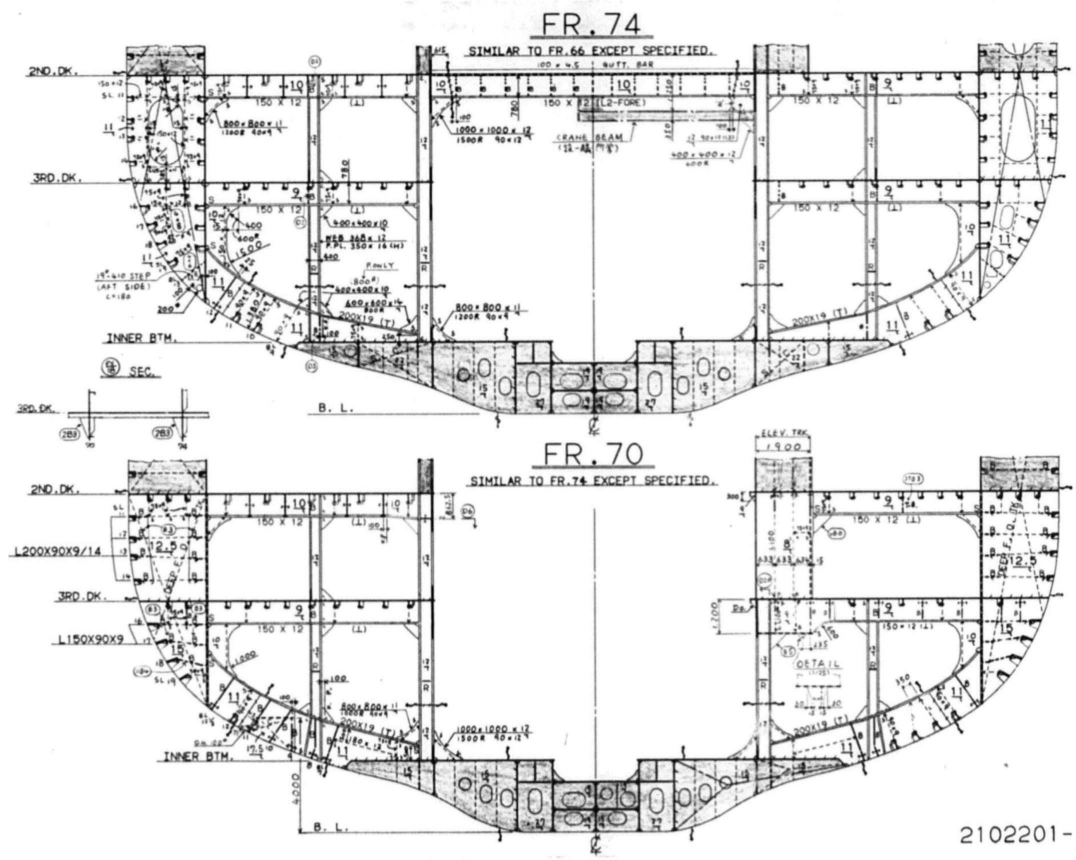
SIDE FRAMING

(SHELL EXPANSION)

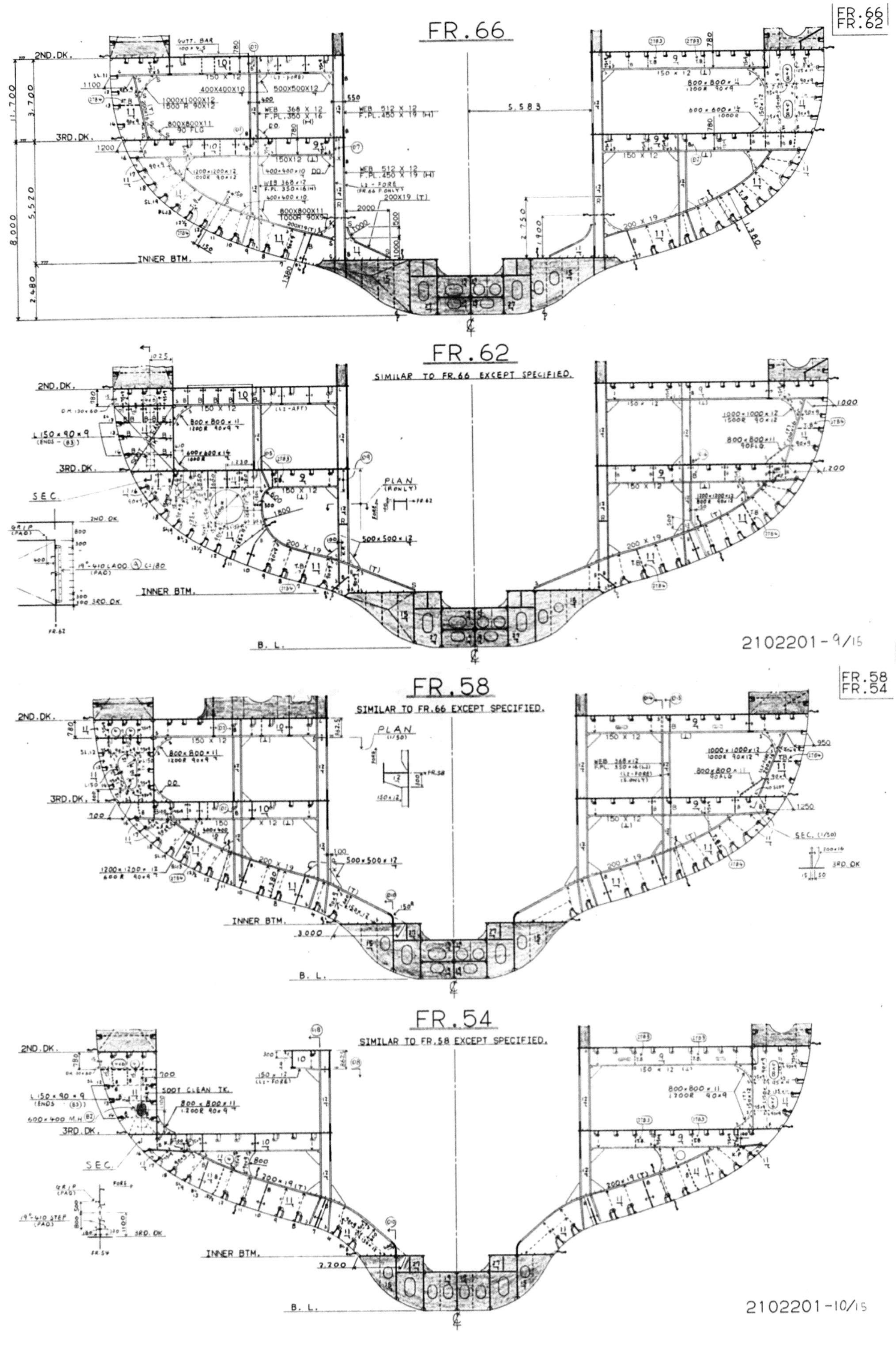


2102201 - 7/15

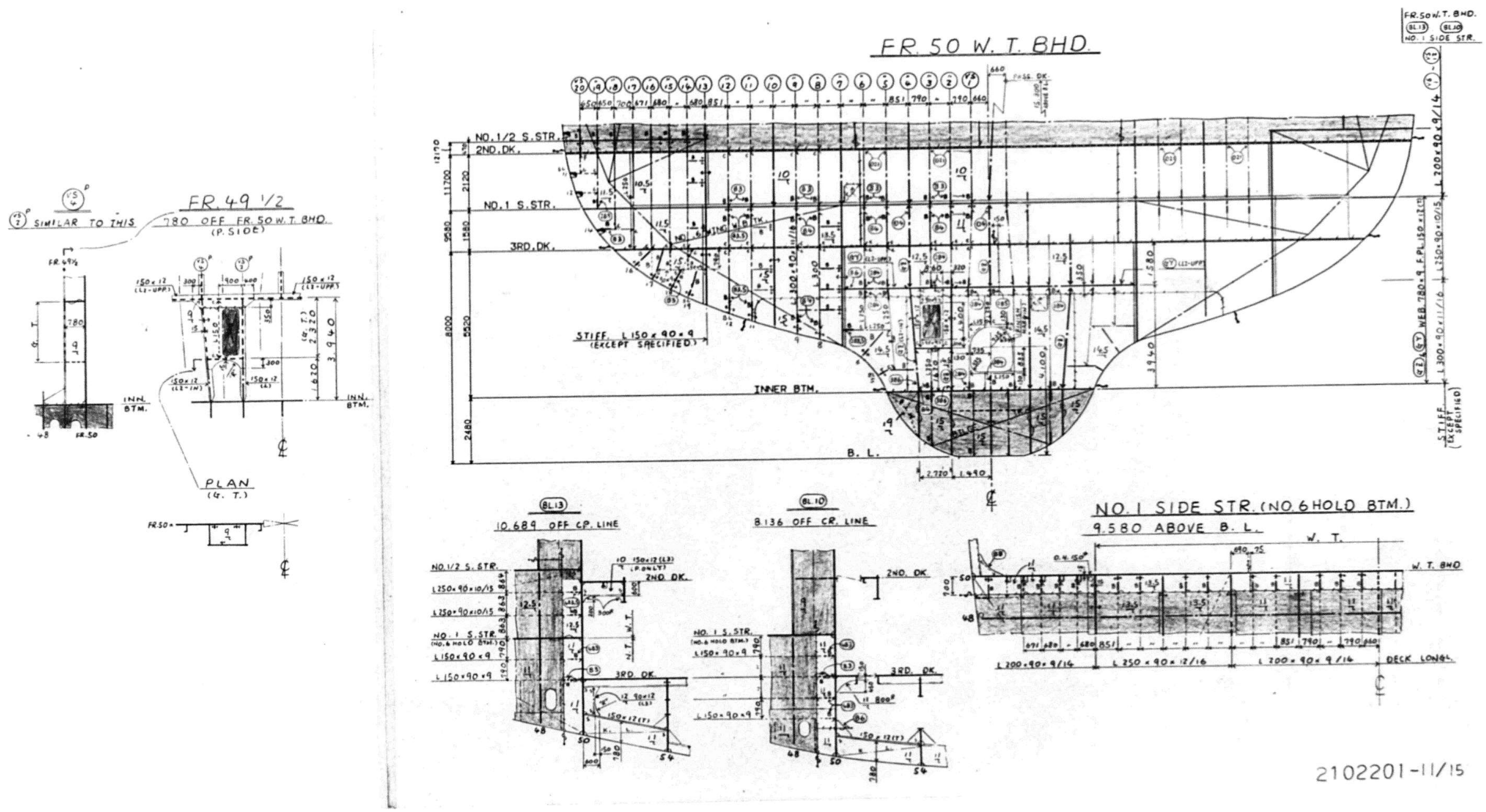
FR.74
FR.70



2102201 - 8/15

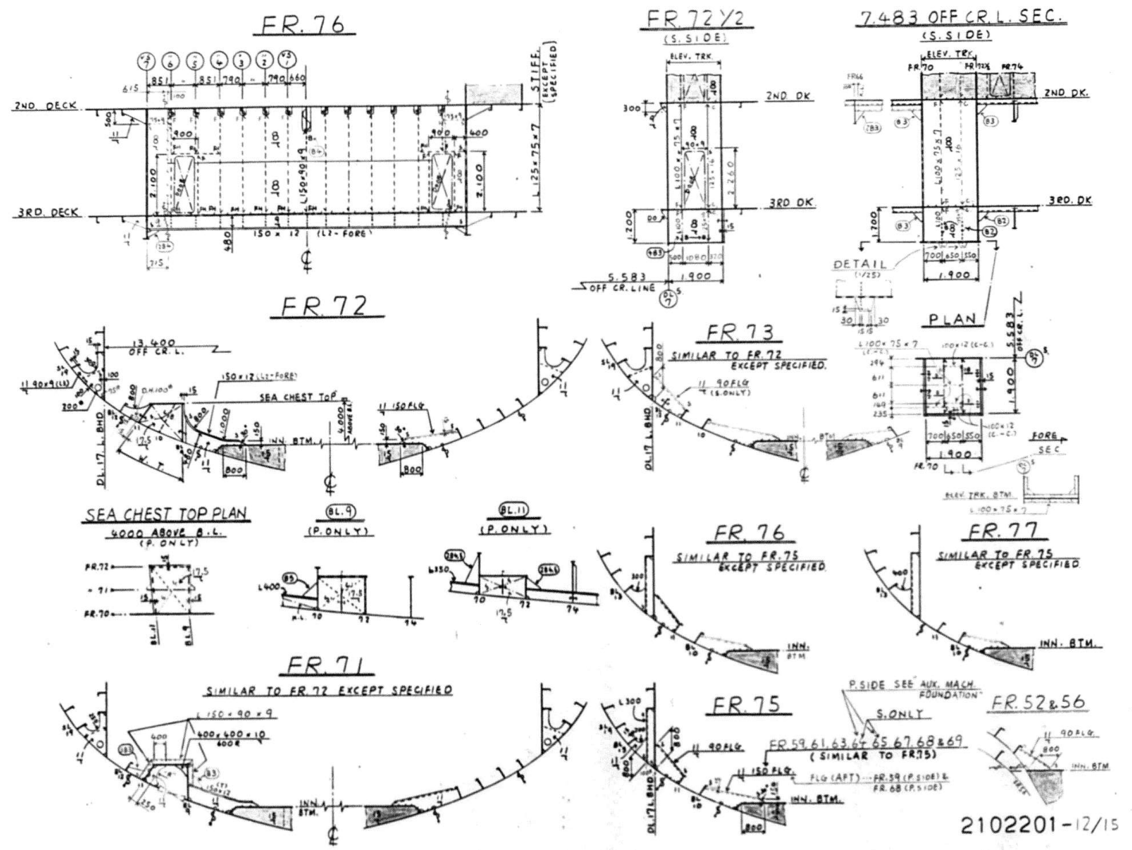

FR.66
FR.62
FR.66
2ND.DK.
3RD.DK.
INNER BTM.
11,700
3,700
8,000
5,520
2,480
5,583
FR.62
SIMILAR TO FR.66 EXCEPT SPECIFIED.
PLAN
SEC.
INNER BTM.
B. L.
2102201-9/15
FR.58
FR.54
FR.58
SIMILAR TO FR.66 EXCEPT SPECIFIED.
PLAN
INNER BTM.
B. L.
SEC. (1/50)
FR.54
SIMILAR TO FR.58 EXCEPT SPECIFIED.
SOOT CLEAN TK.
SEC.
INNER BTM.
B. L.
2102201-10/15

30 /

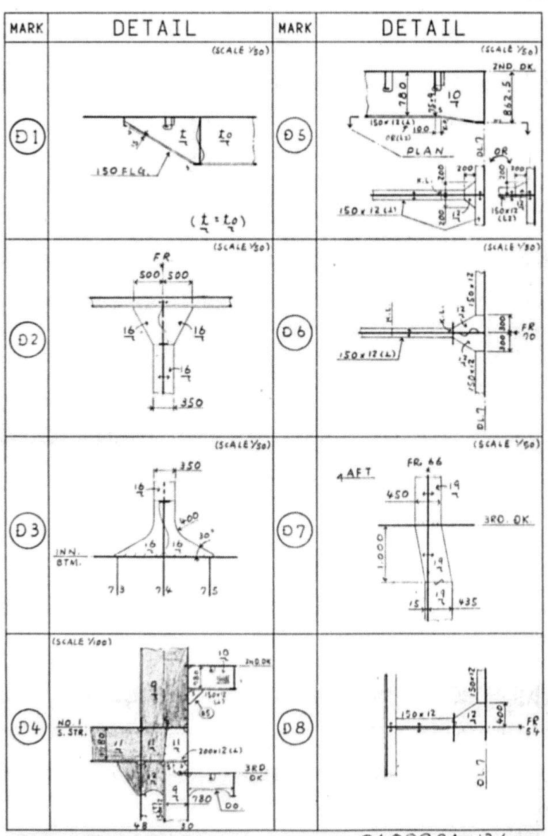


2102201-11/15

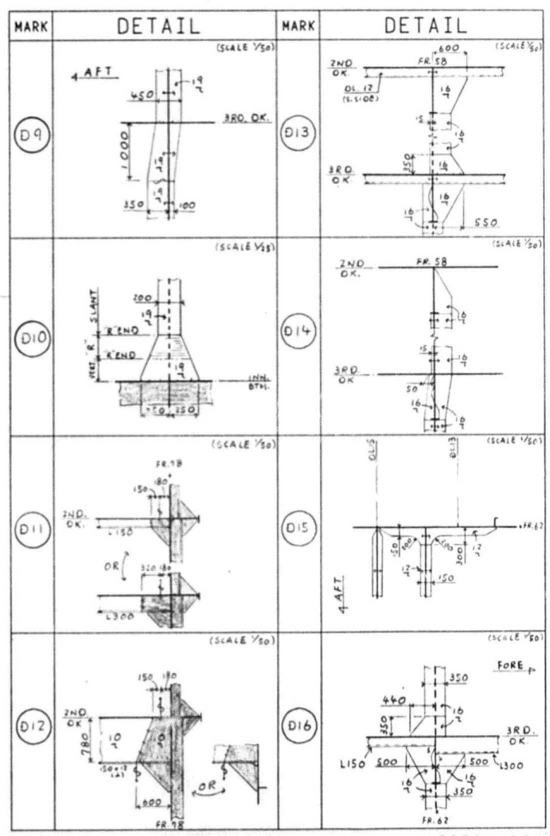
4·33(4)



2102201-12/15

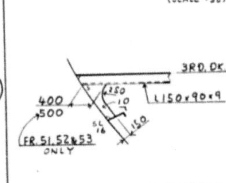
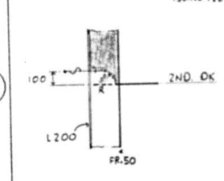
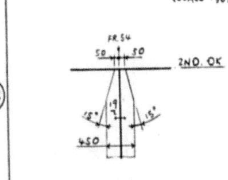
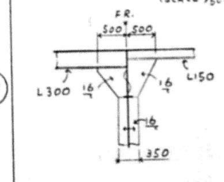
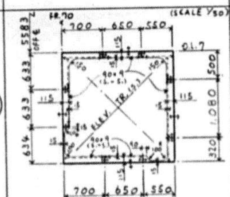
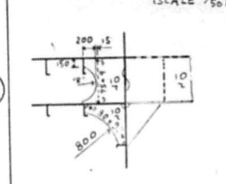
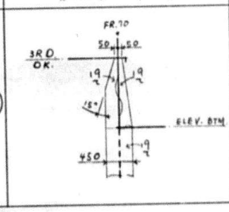
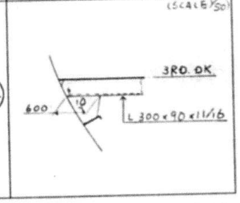


2102201-13/15



2102201-14/15

303

MARK	DETAIL	MARK	DETAIL
D17		D21	
D18		D22	
D19		D23	
D20		D24	

2:02201-15/15

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN	APR. 1985	
-10		Do. 1ST REVISED PLAN	MAY 16 '85	
-11	(A)	PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. DELETED SEAM JOINTS. BASED DWG. MES DWG NO. 2102201-A	JUL. 2 '85	
-12		FOLLOWED MES PARTLY REVISED PLAN No. A1	AUG. 26 '85	
-13		Do. No. A2	OCT. 4 '85	
-14		Do. No. A3	OCT. 16 '85	
-15		Do. No. A5 (Do. NO. A4 BY YARD PLAN HA-21410-01)	DEC. 4 '85	
-F		PREPARED AS FINISHED PLAN FOR S. NO. 1158	MAR. 11. '87	

SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION	CLASS ABS
	APPROVED	機関室船側及甲板構造(2.3甲板)
	CHECKED	SIDE & DECK CONST. IN ENG. RM. (2ND. DK. & 3RD. DK.)
	DRAWN	
	SCALE	
	ORDER 01-15800	ITEM / DRAWING NO. HS-21410-F / LYKES REF. NO. 110607

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

DRAWN ISSUED

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL								

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SHIPYARD AND SHIP'S NO. & NAME			
~~MITSUI TAMANO~~		MITSUBISHI KOBE	
NO. 1323	~~DOCTOR LYKES~~	NO. 1158	JAMES LYKES
NO. 1324	~~ALMERIA LYKES~~	NO. 1159	~~JOSEPH LYKES~~
NO. 1325	~~TILLIE LYKES~~	NO. 1164	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER — SHIP'S NO. — SHIP'S NAME

STRUCTURE DESIGN SEC. — SEC. CHIEF — ASSIST. CHIEF — STAFF — DATE

PARTLY REVISED PLAN NO. 5

機関室船側及甲板構造(2.3甲板)
SIDE & DECK CONST. IN ENG. RM. (2ND. DK. & 3RD. DK.)

JOB NO. T51323/24/25	SCALE 1/100	LYKES REF. NO. 110607	MITSUI DRAWING NO. 2102201-A5

(SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS	FEB. 20. '85
A	A	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	
	A	REVISED ACCORDING TO DISCUSSION WITH ABS	
	A	REVISED ACCORDING TO LETTER WITH OWNER DATED 19th APR. '85	APR. 27 '85 M.O.
A1	A1	MISCELLANEOUS REVISION	AUG. 7. '85 M.O.
A2	A2	MISCELLANEOUS REVISION	SEPT. 25. '85 T.O.
A3	A3	MISCELLANEOUS REVISION (VERT LADD IS PROVIDED)	OCT. 9 '85 H.Y.
A4	A4	MISCELLANEOUS REVISION (REINFORCEMENT FOR LIFTING EYE (10T))	NOV. 13. '85 H.H
A5	A5	MISCELLANEOUS REVISION	NOV. 27 '85 K.T.

2102201-1

NOTES:-

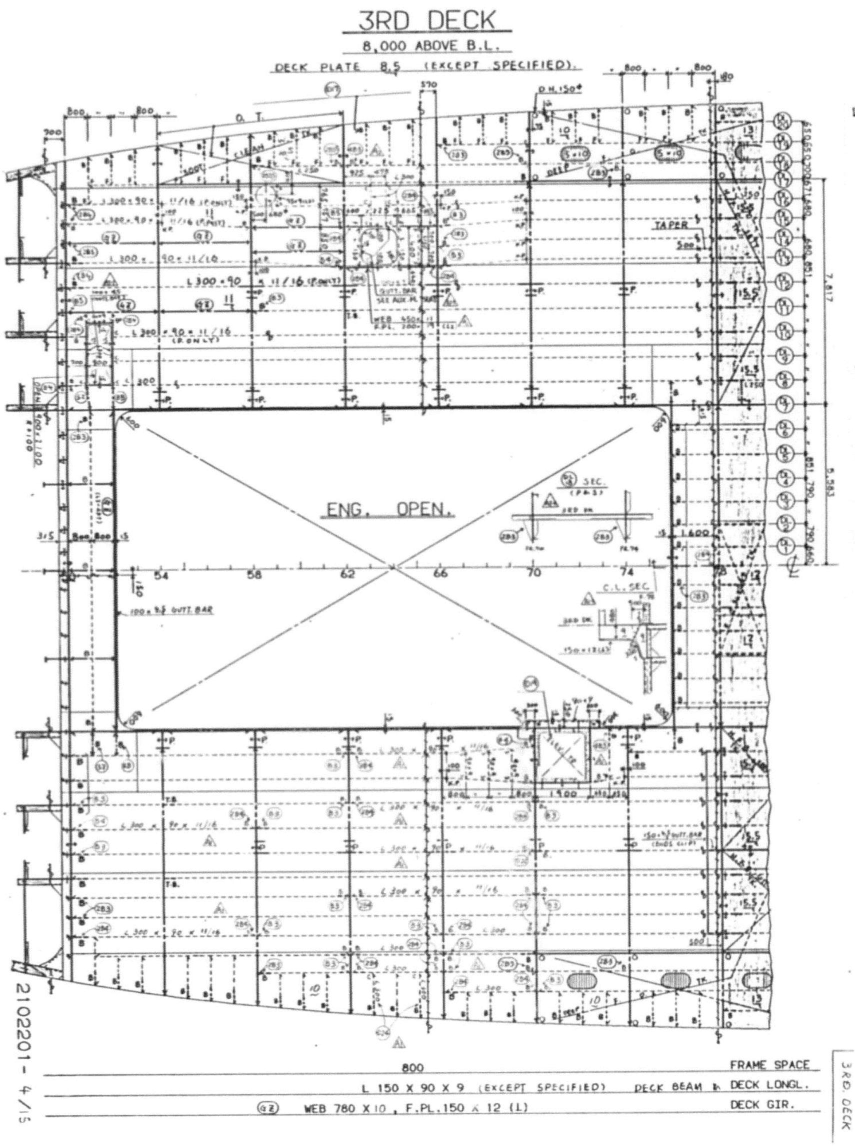
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

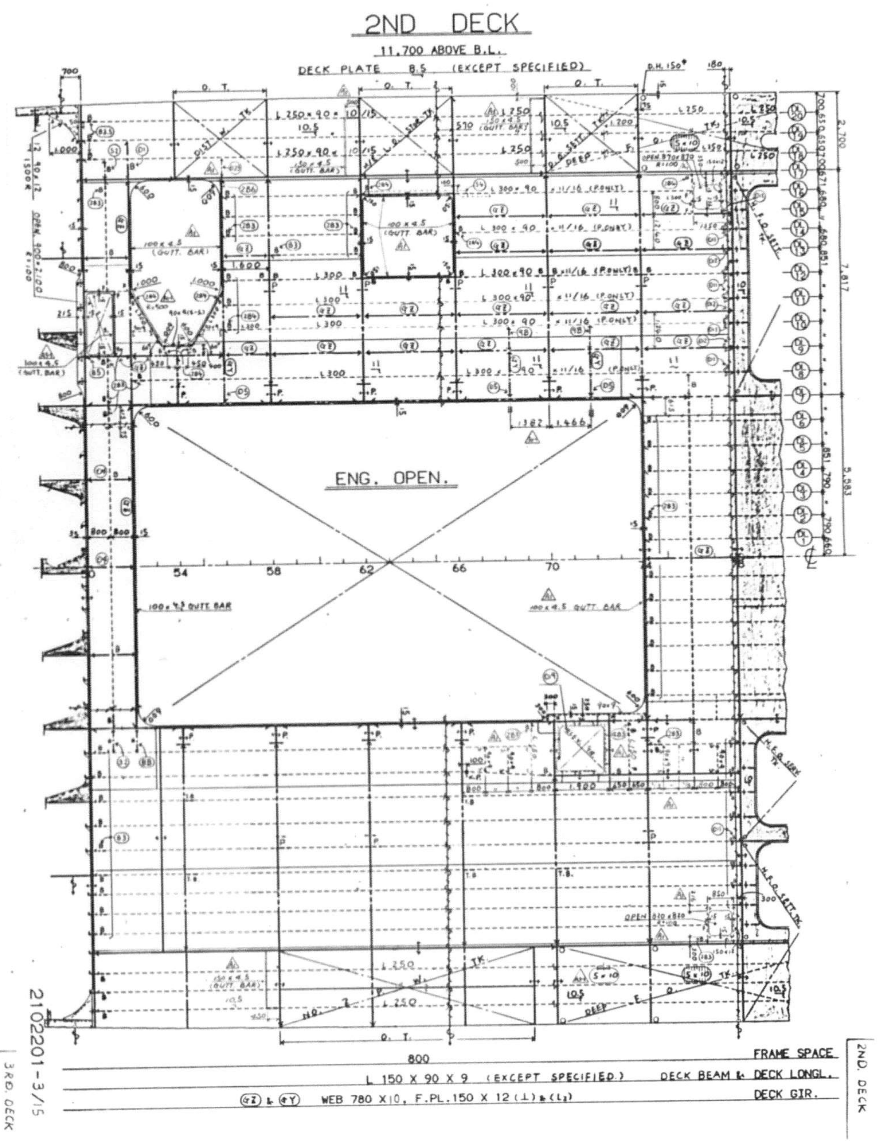
備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番 2100811）」を参照のこと。
4. 溶接脚長については，特記の他は「溶接脚長表（図番 2100832）」を参照のこと。

2102201-2/15

305


3RD DECK
8,000 ABOVE B.L.
DECK PLATE 8.5 (EXCEPT SPECIFIED).
ENG. OPEN.
TAPER
2102201- 4/15
800 FRAME SPACE
L 150 X 90 X 9 (EXCEPT SPECIFIED) DECK BEAM & DECK LONGL.
WEB 780 X10, F.PL.150 X 12 (L) DECK GIR.
3RD. DECK

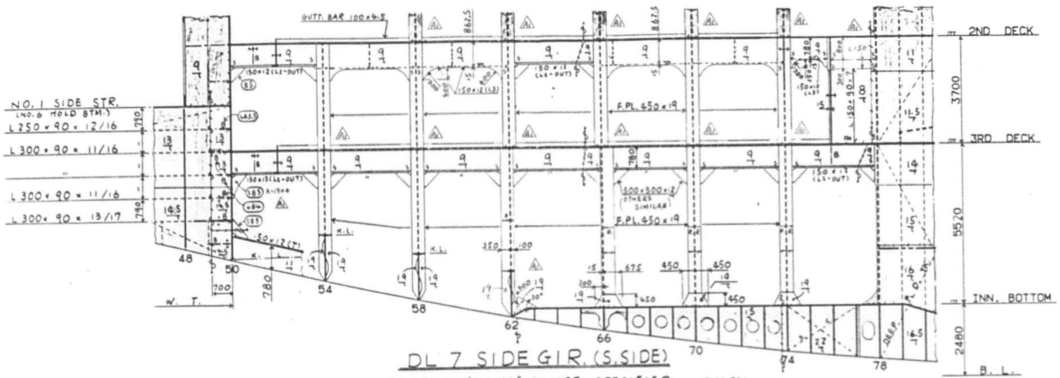

2ND DECK
11,700 ABOVE B.L.
DECK PLATE 8.5 (EXCEPT SPECIFIED)
ENG. OPEN.
2102201-3/15
800 FRAME SPACE
L 150 X 90 X 9 (EXCEPT SPECIFIED) DECK BEAM & DECK LONGL.
WEB 780 X10, F.PL.150 X 12 DECK GIR.
2ND. DECK

306

DL. 7
SIDE GIR.

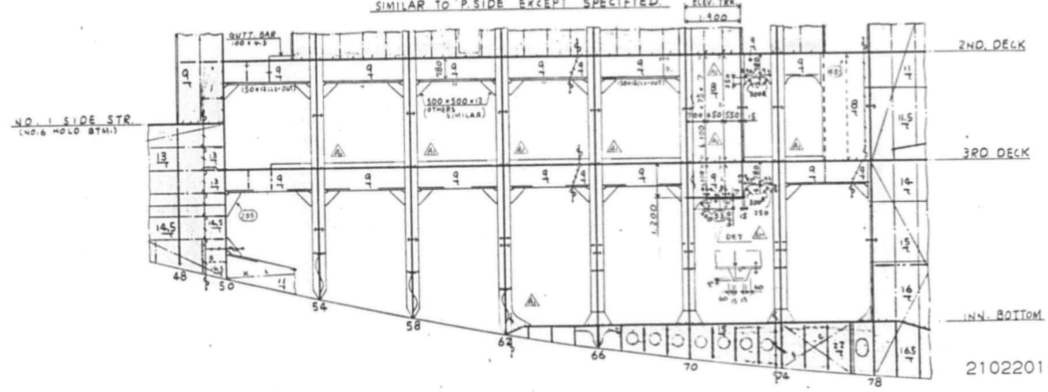
DL 7 SIDE GIR. (P.SIDE)

5583 OFF CR.LINE



DL 7 SIDE GIR. (S.SIDE)

SIMILAR TO "P.SIDE" EXCEPT SPECIFIED

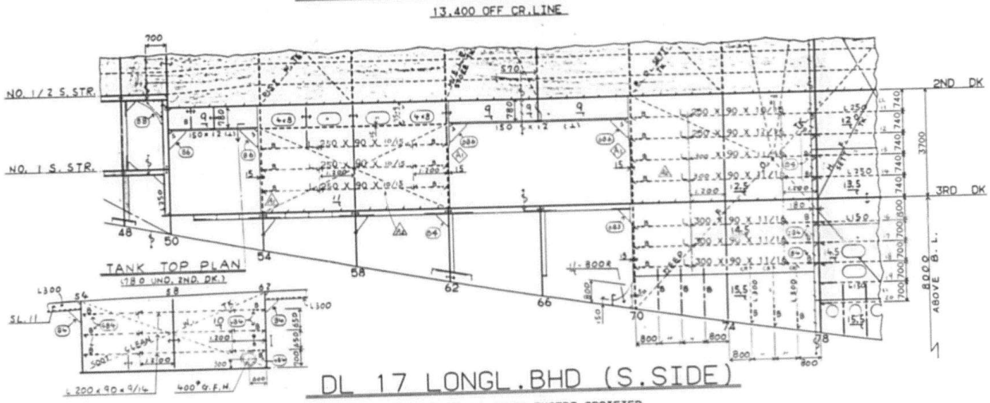


2102201- 5/15

DL. 17
LONGL. BHD

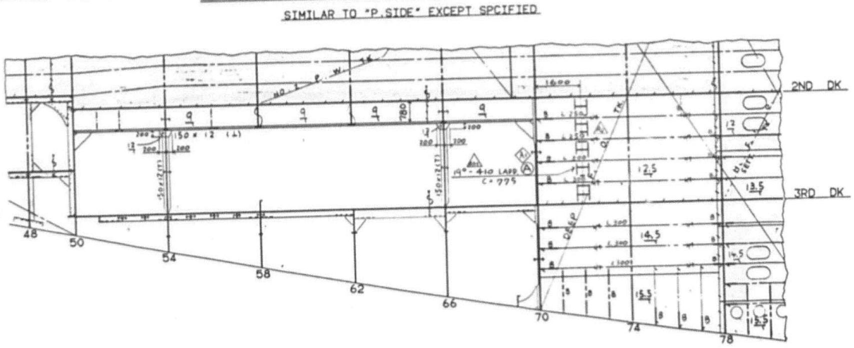
DL 17 LONGL. BHD (P.SIDE)

13,400 OFF CR.LINE



DL 17 LONGL. BHD (S.SIDE)

SIMILAR TO "P.SIDE" EXCEPT SPCIFIED

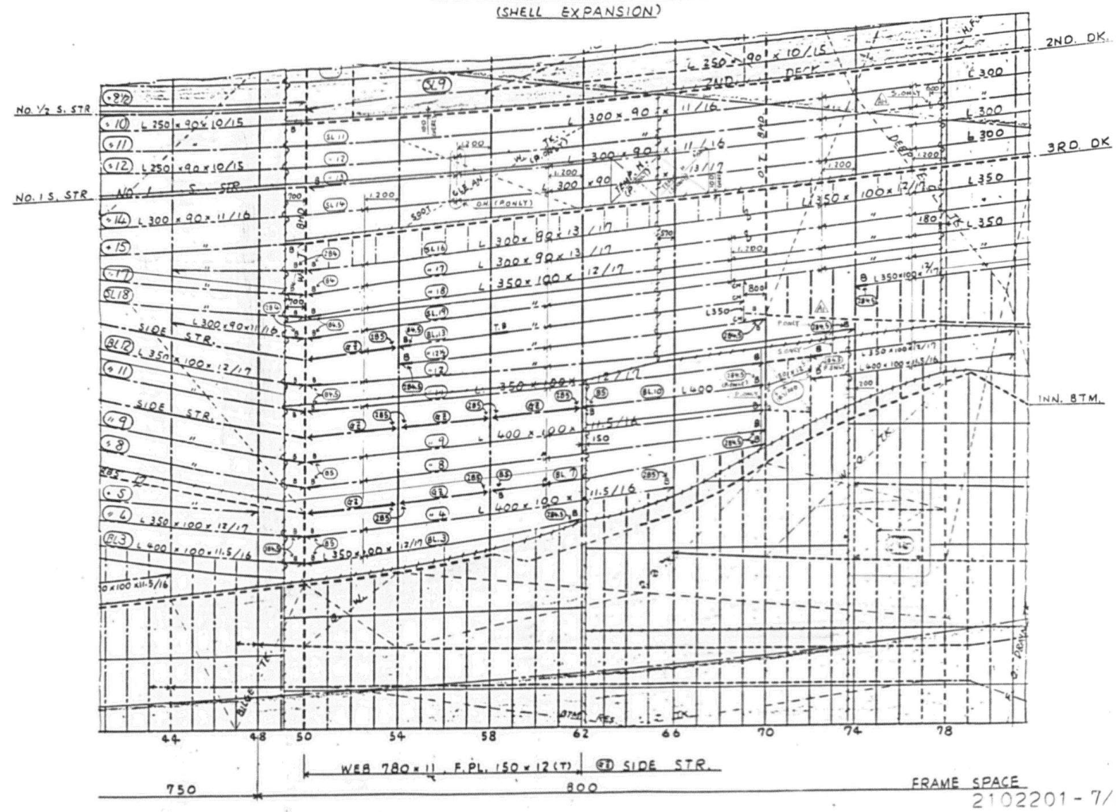


2102201- 6/15

SIDE
FRAMING

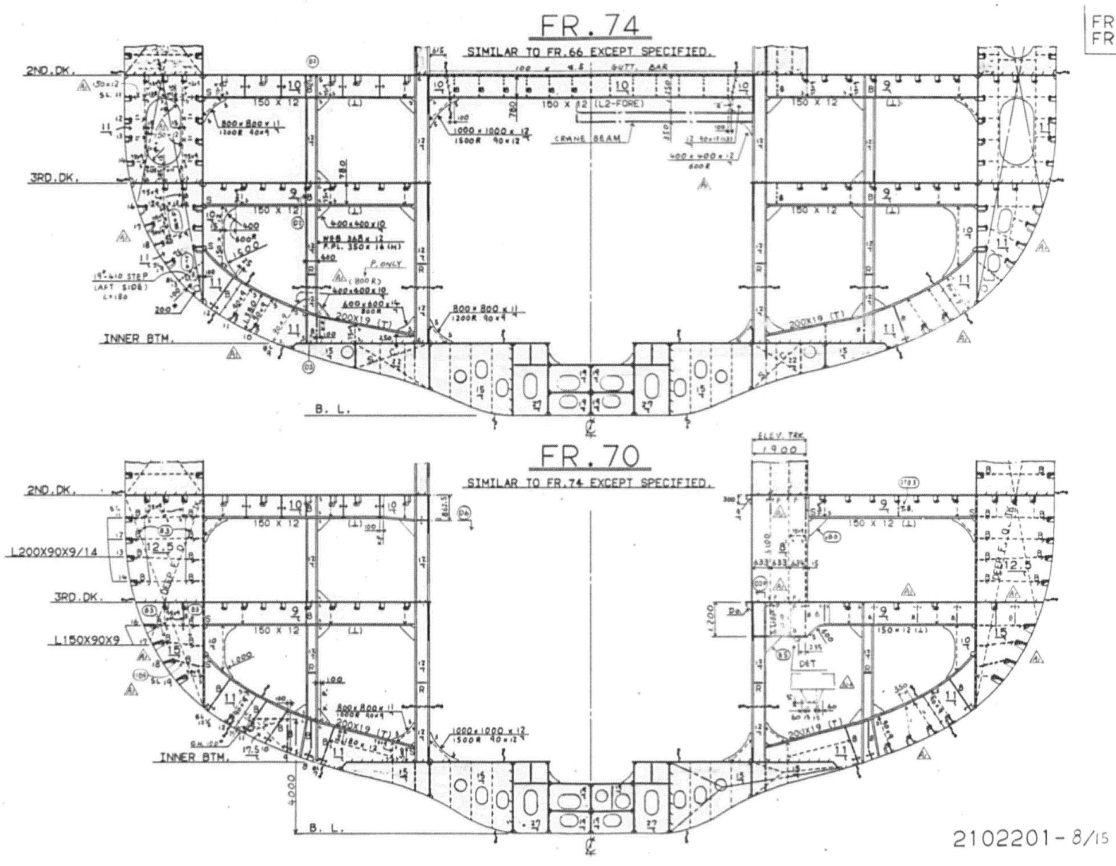
SIDE FRAMING

(SHELL EXPANSION)



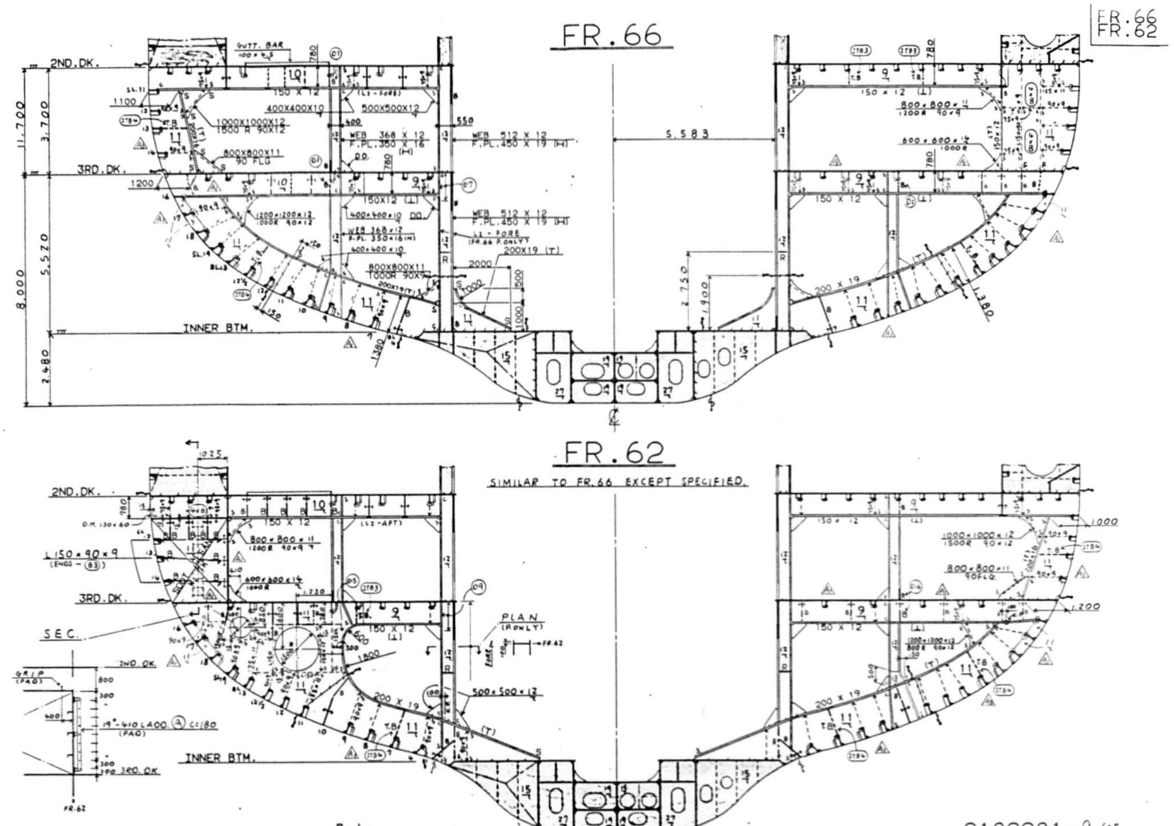
2102201 - 7/15

FR. 74
FR. 70

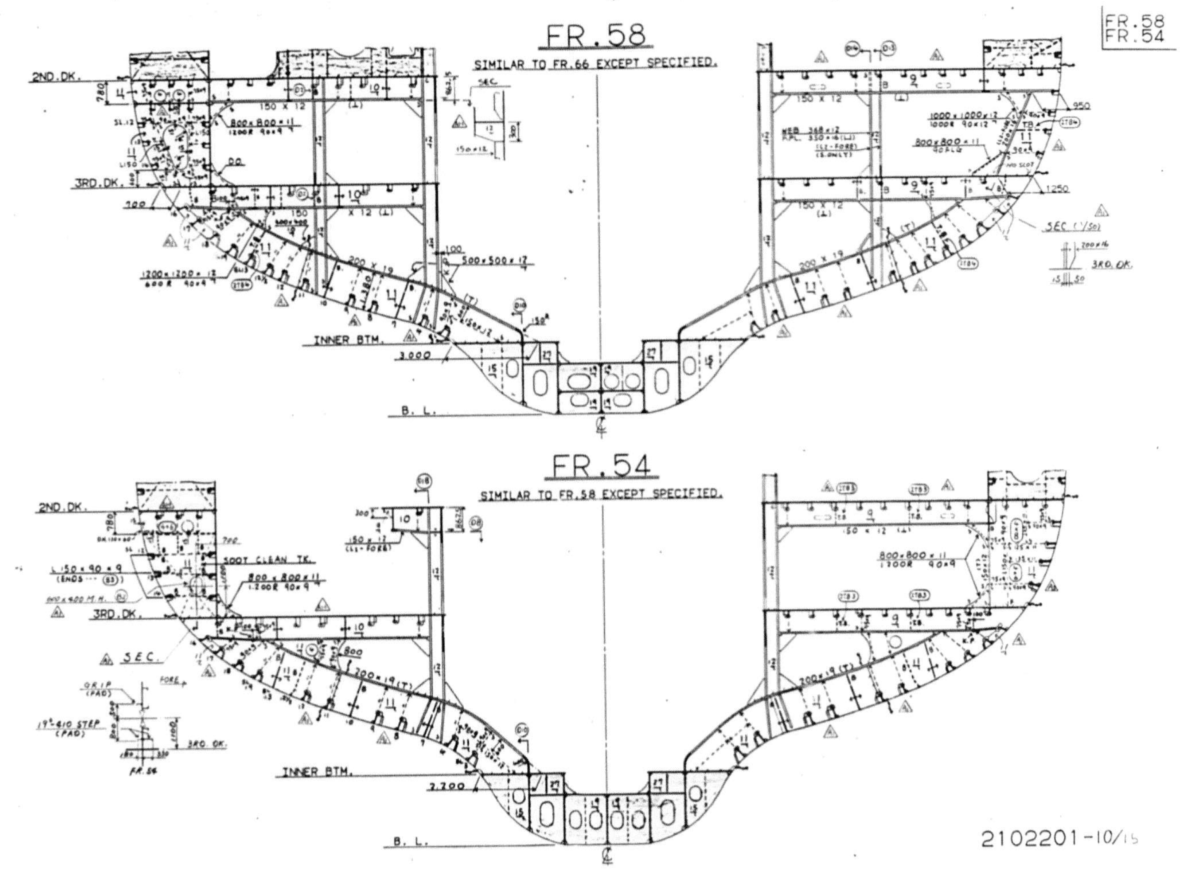


2102201 - 8/15

308

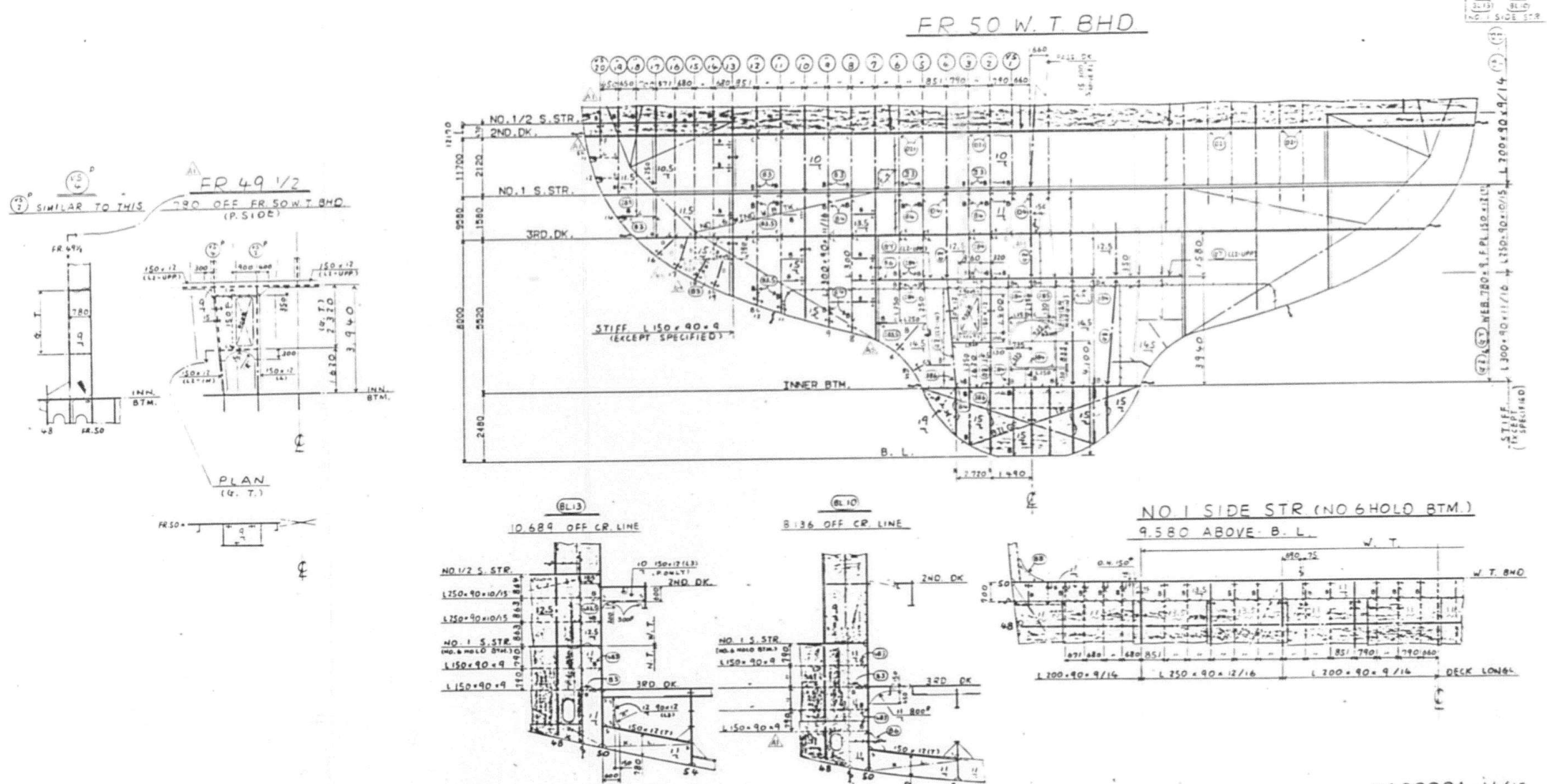


2102201-9/15

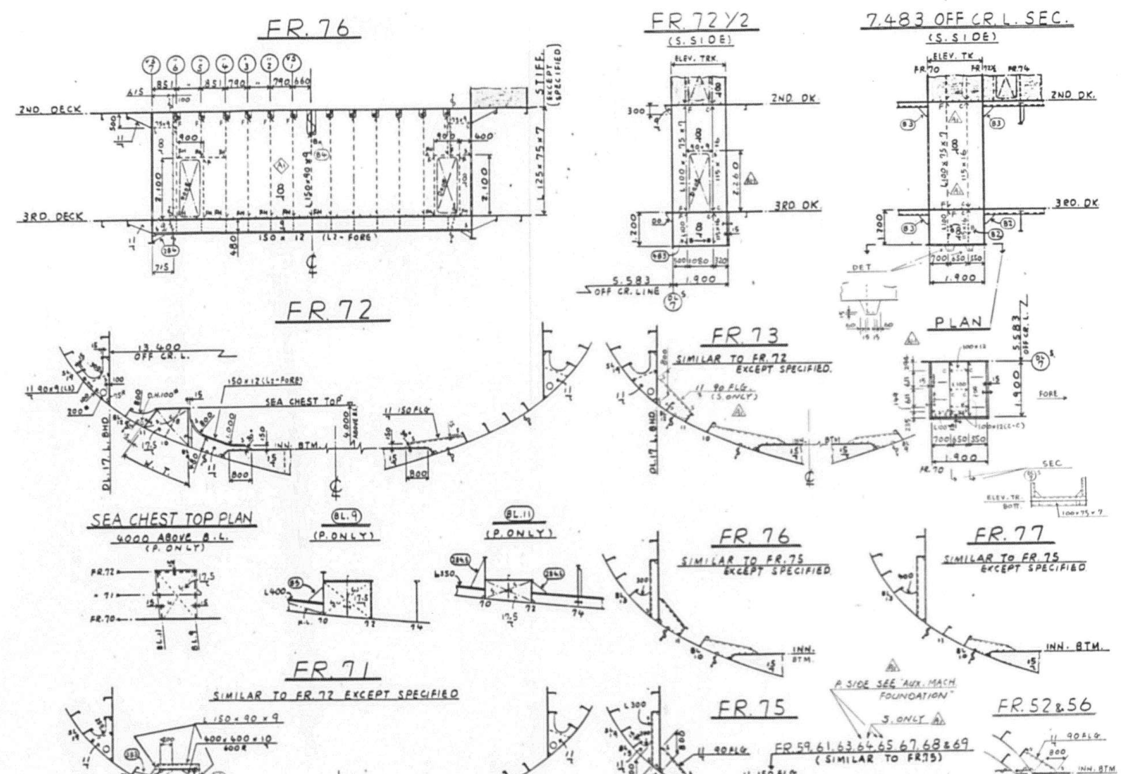


2102201-10/15

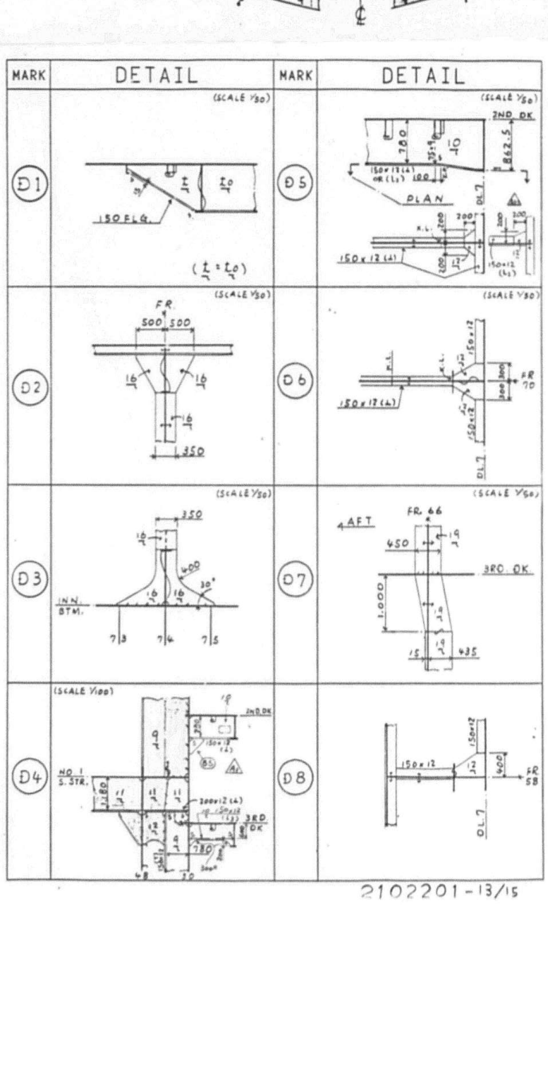
309



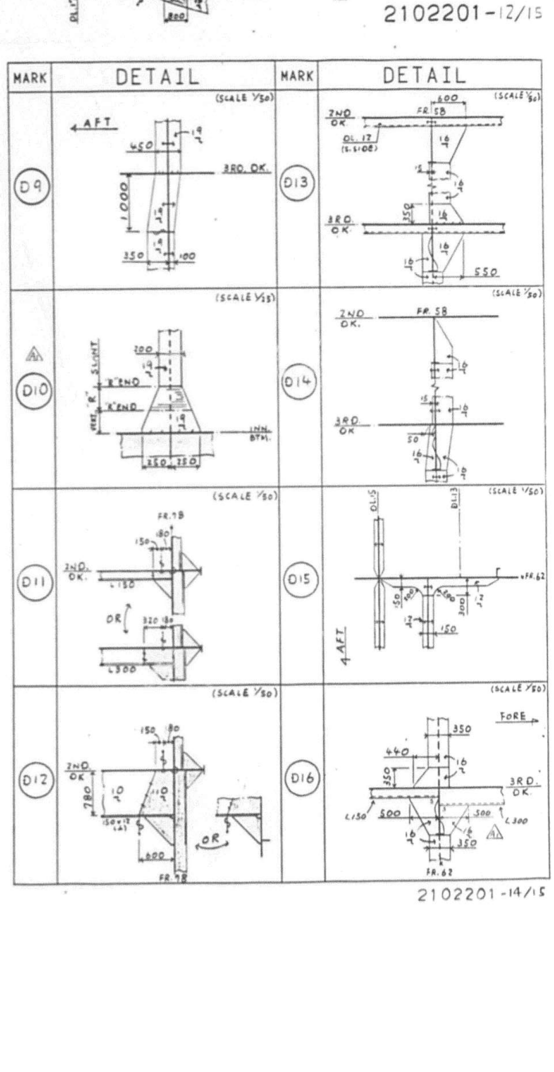
2102201-11/15



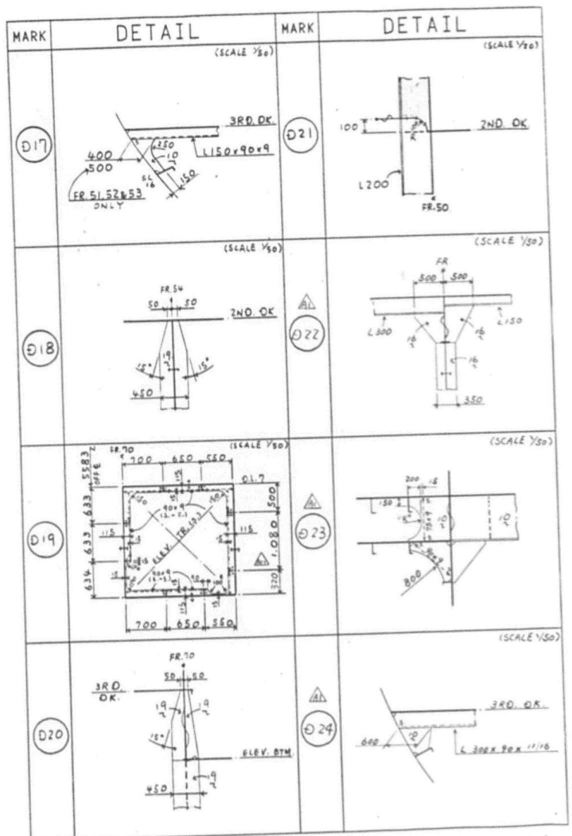
2102201-12/15



2102201-13/15



2102201-14/15



2102201-15/15

APPROVAL OF OWNER & REGULATORY BODIES

ALT.NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	APR 30 '85	OFTS/MES/257						
1ST REVISED PLAN	Jun 19 '85	OFTS/MES-573			26 Jul '86	T-8-2		
PARTLY REVISED PLAN NO.1	July 9 '85	TAM12			17 Sep '86	T-8-2		
2ND PART REV	7 Aug '86	TAM/67			17 Sep '86	T-8-2		
3RD PART REV	22 Sep '86	TAM/70			4 Oct '86	T-8-2		
4TH PART REV	4 Nov '86	TAM/105			20 Nov '86	T-8-2		
5TH PART REV	26 Nov '86	TAM/128			18 Dec '86	T-8-2		
6TH PART REV	6 Mar '86	TAM/141			11 Mar '86	T-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER: T. Aishi
STRUCTURE DESIGN SEC.

SHIP'S NO. 1325 — SHIP'S NAME: TILLIE LYKES

機関室上甲板
UPPER DECK IN ENG. RM.

DATE (TEL.)
JOB NO. TS1323/24/25 — SCALE 1/100
JOBCLASSIF.NO.
LYKES REF. NO. 110608
MITSUI DRAWING NO. 2102301

(15 SHEETS WITH COVER)

PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO. 1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO. 1324 AND S.NO. 1325."	NOV.28.'86

DWG.NO. 2102301-1/

NOTES:-

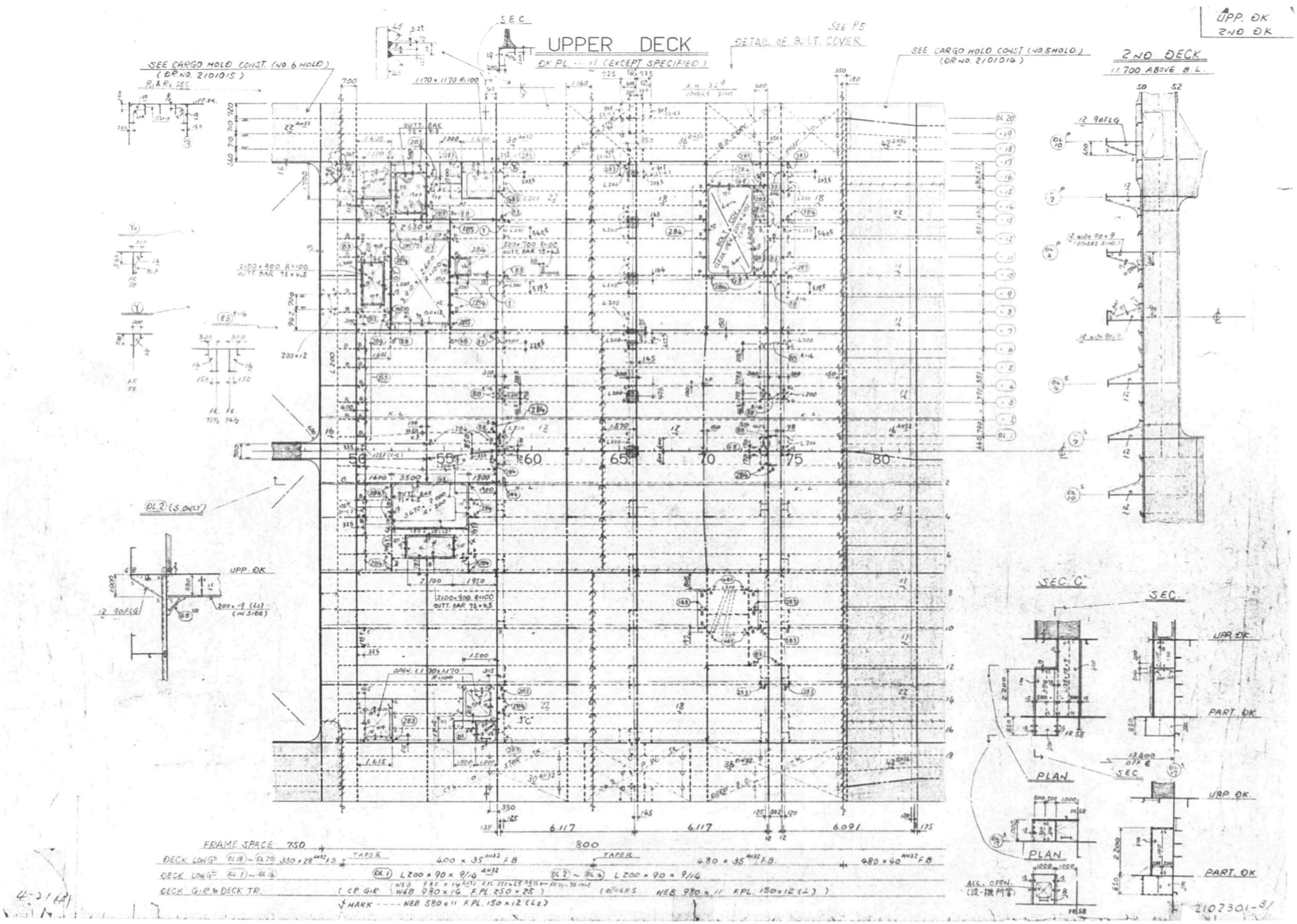
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備 考:-

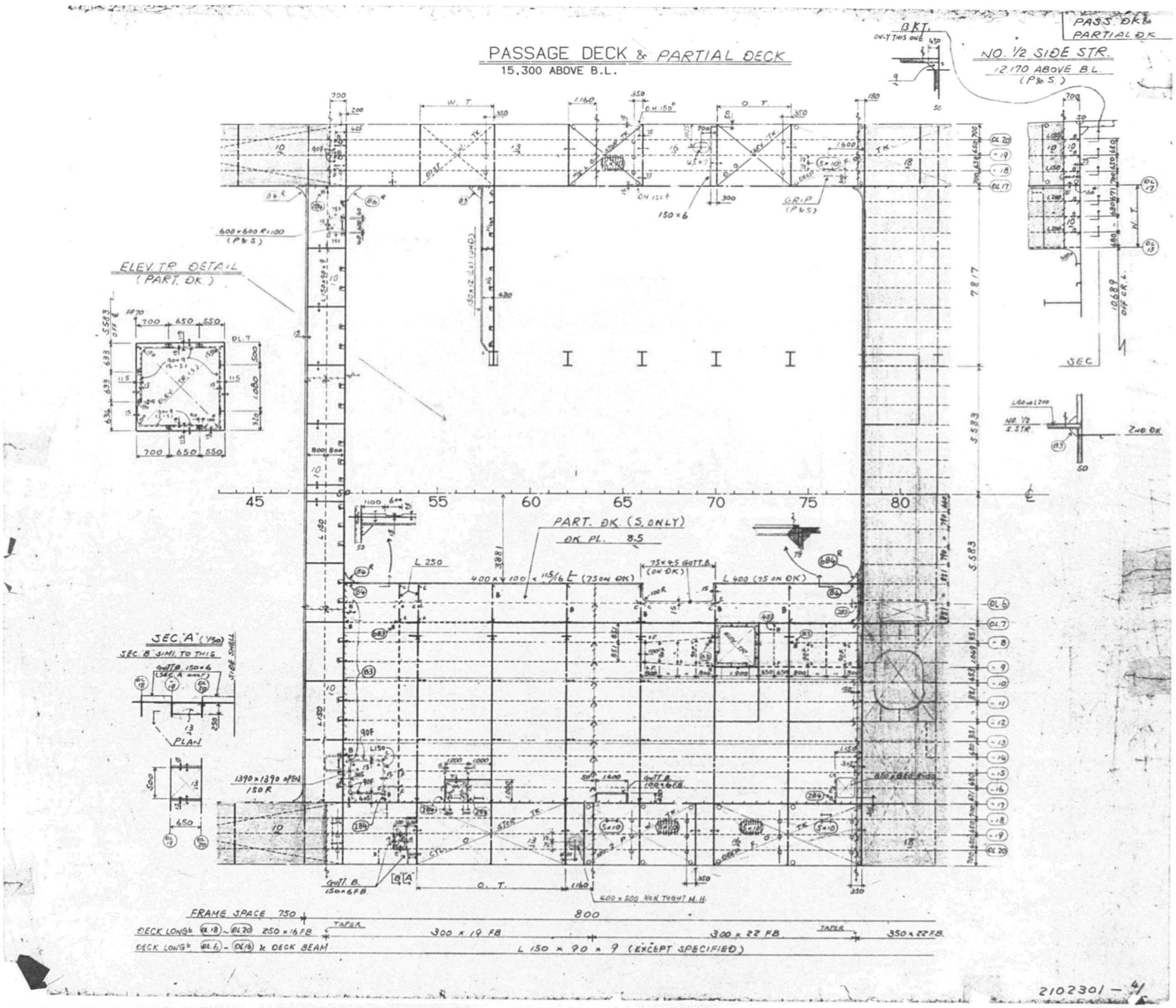
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
 "構造詳細図（図番 2100811）"を参照のこと。
4. 溶接脚長については，特記の他は
 "溶接脚長表（図番 2100832）"を参照のこと。

2102301-2/

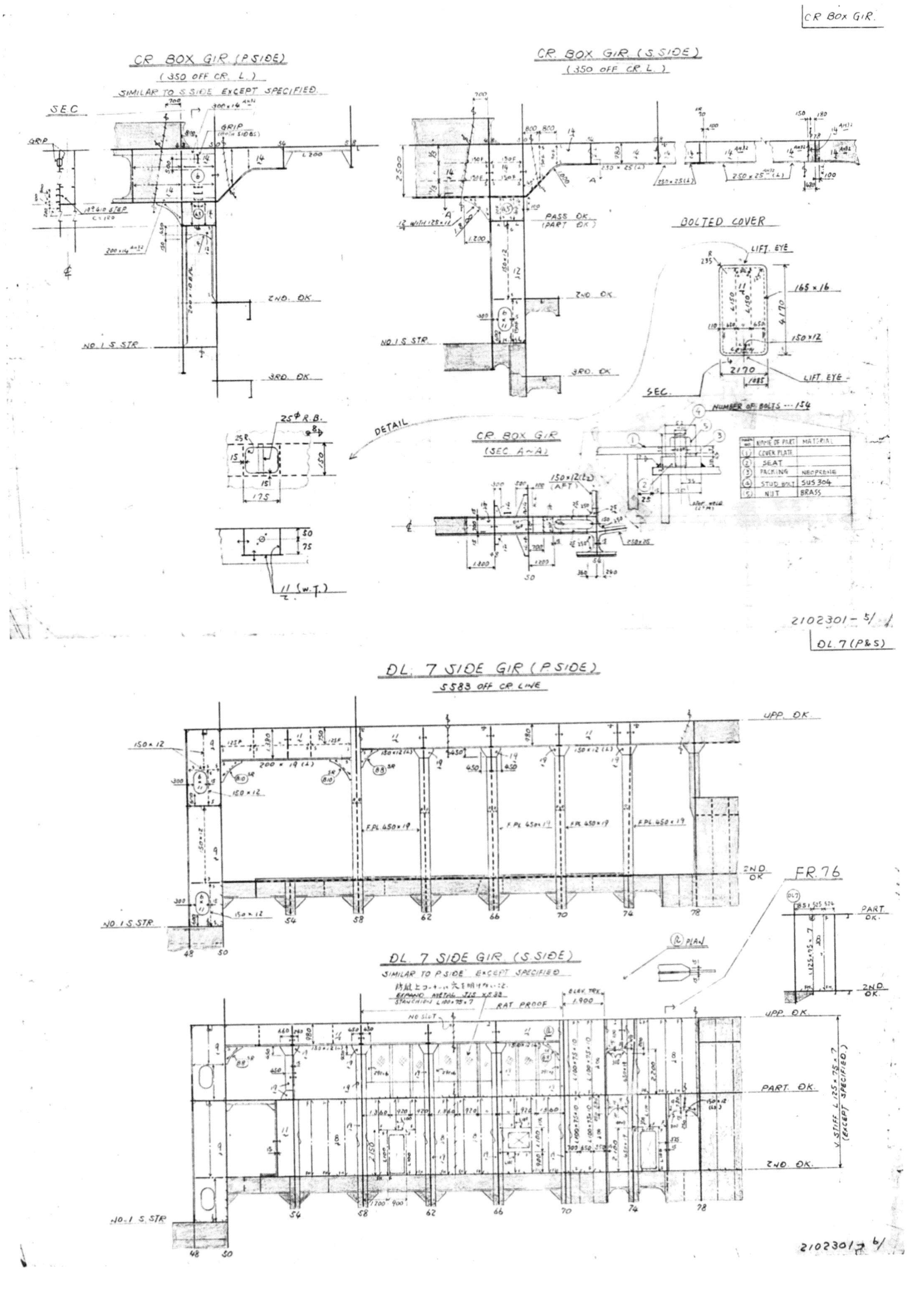
313


UPPER DECK
DK PL ... 11 (EXCEPT SPECIFIED)
SEE CARGO HOLD CONST. (NO. 6 HOLD)
(DR NO. 2101015)
SEE CARGO HOLD CONST. (NO. 5 HOLD)
(DR NO. 2101014)
DETAIL OF BOLT COVER
UPP. DK
2ND DK
2ND DECK
11.700 ABOVE B.L.
SEC. "C"
SEC.
PLAN
PART. DK
FRAME SPACE 750
DECK LONG'L
DECK GIR. & DECK TR.
2102301-31

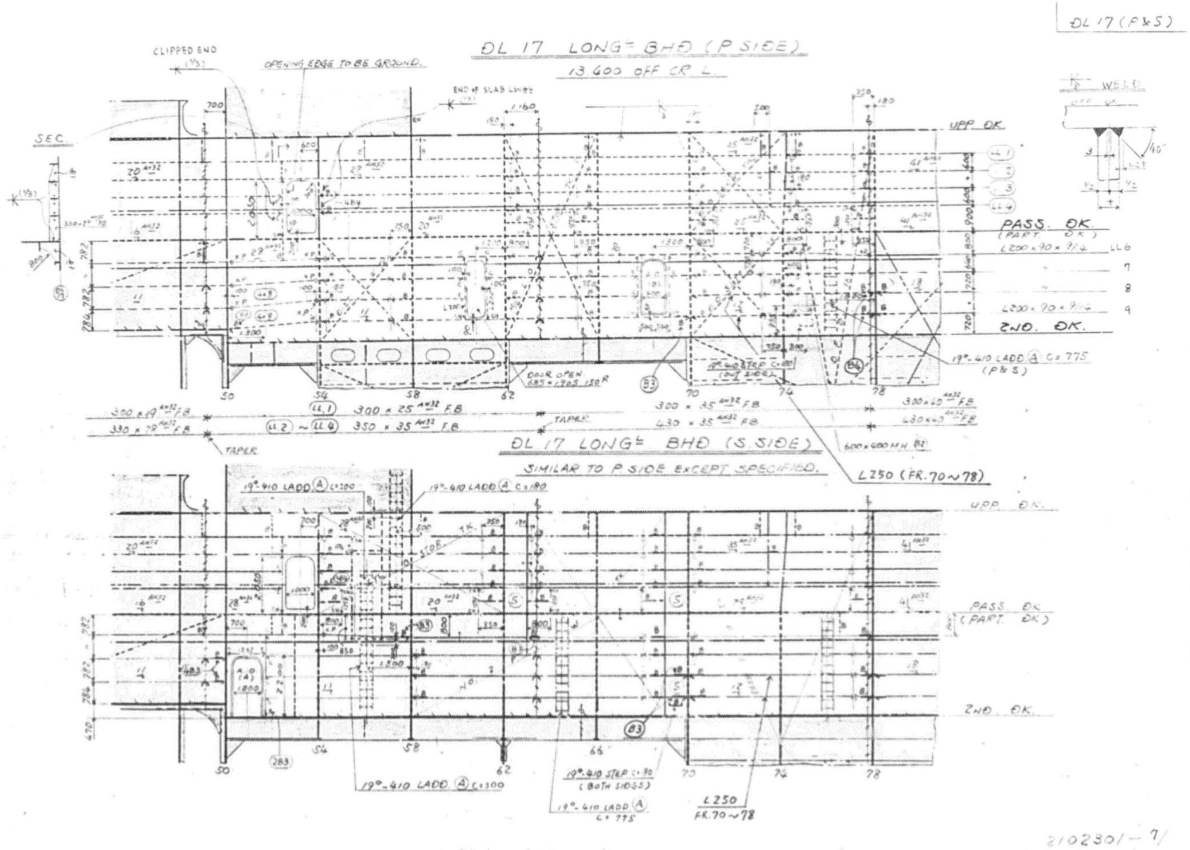
314


PASSAGE DECK & PARTIAL DECK
15,300 ABOVE B.L.
NO. 1/2 SIDE STR.
12,170 ABOVE B.L.
(P & S.)
PASS DK & PARTIAL DK
ELEV. TR. DETAIL
(PART. DK.)
PART. DK. (S. ONLY)
DK PL. 8.5
SEC. "A"
PLAN
FRAME SPACE 750
800
DECK LONG'L (DL 18) ~ (DL 20) 250 × 16 FB
300 × 19 FB
300 × 22 FB
350 × 22 FB
DECK LONG'L (DL 6) ~ (DL 16) & DECK BEAM
L 150 × 90 × 9 (EXCEPT SPECIFIED)
2102301 - 4/

315

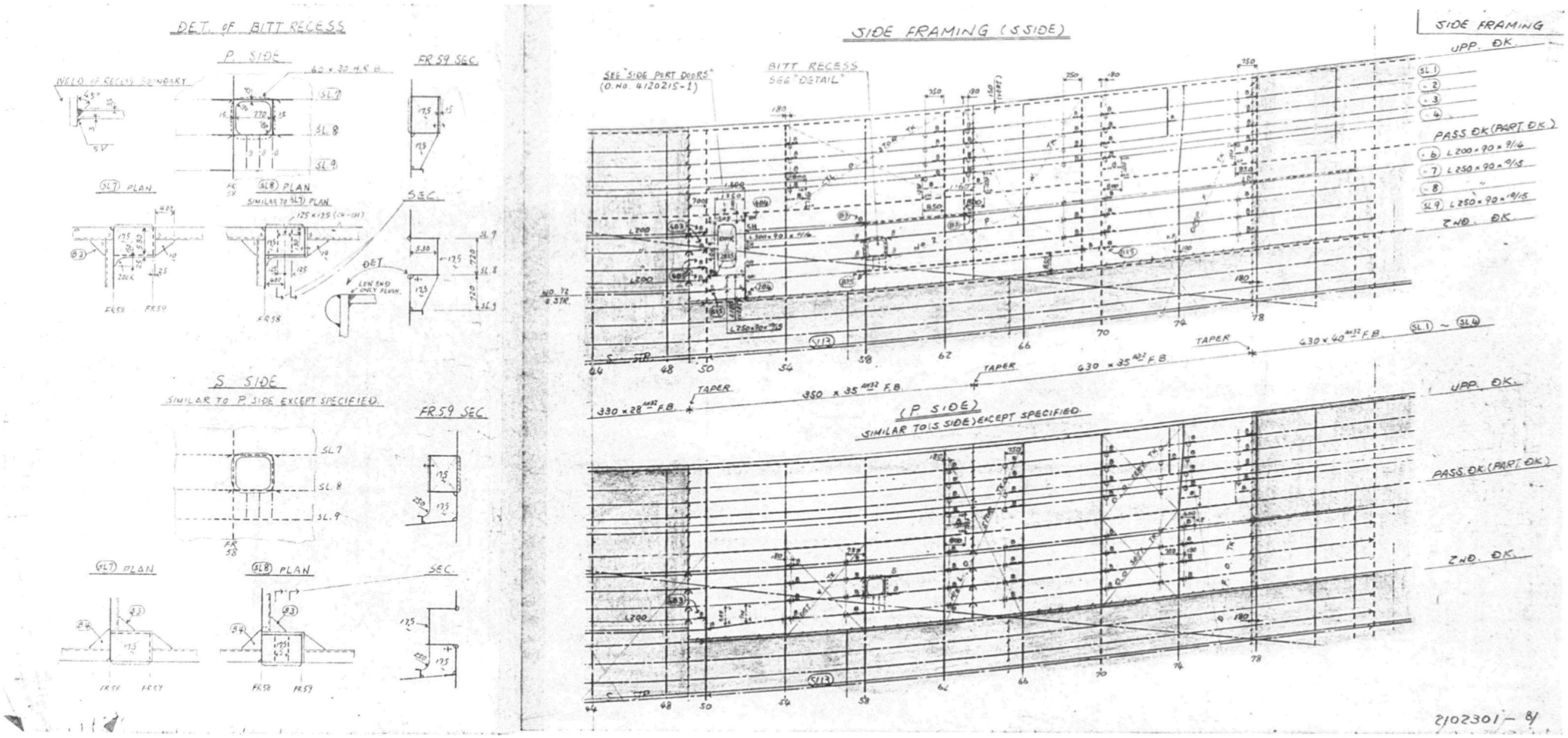

CR BOX GIR.
CR. BOX GIR (P.SIDE)
(350 OFF CR. L.)
SIMILAR TO S.SIDE EXCEPT SPECIFIED.
SEC.
GRIP
2ND. DK.
3RD. DK.
NO.1 S.STR.
CR. BOX GIR (S.SIDE)
(350 OFF CR. L.)
PASS DK.
(PART DK.)
BOLTED COVER
LIFT EYE
165 × 16
150 × 12
NUMBER OF BOLTS ... 154
DETAIL
25φ R.B.
CR. BOX GIR
(SEC A~A)
150 × 12 (L) (AFT)
NAME OF PART
MATERIAL
COVER PLATE
SEAT
PACKING
NEOPRENE
STUD BOLT
SUS 304
NUT
BRASS
11 (W.T.)
2102301 - 5/
DL.7 (P&S)
DL. 7 SIDE GIR (P.SIDE)
5583 OFF CR LINE
UPP. DK.
2ND DK
F.PL 450 × 19
200 × 19 (L)
150 × 12
FR.76
PART DK.
DL. 7 SIDE GIR (S.SIDE)
SIMILAR TO P.SIDE EXCEPT SPECIFIED
RAT PROOF
NO SLOT
V.STIFF L125 × 75 × 7 (EXCEPT SPECIFIED)
48
50
54
58
62
66
70
74
78
2102301 - 6/

316

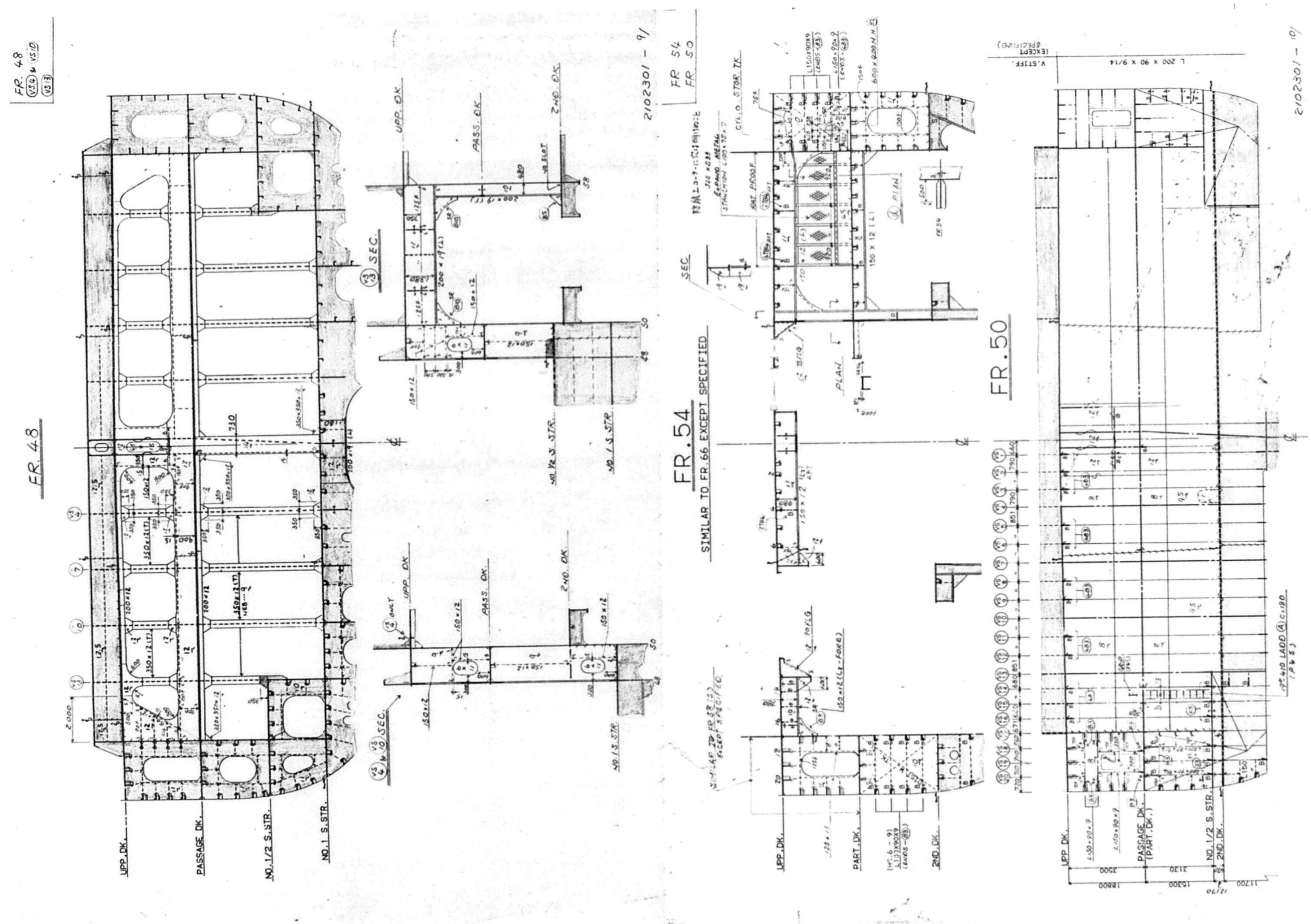


DL 17 (P&S)
DL 17 LONG'L BHD (P SIDE)
13.600 OFF CR. L
CLIPPED END
OPENING EDGE TO BE GROUND.
END of SLAB LONG'L
SEC.
UPP. DK.
PASS. DK
(PART. DK.)
L200 × 90 × 9/14
L200 × 70 × 9/14
2ND. DK.
WELD
DOOR OPEN
19φ-410 LADD (A) C=775
(P&S)
300 × 19 F.B
330 × 19 F.B
TAPER
300 × 25 F.B
350 × 35 F.B
300 × 35 F.B
430 × 35 F.B
300 × 40 F.B
430 × 40 F.B
600 × 400 M.H
L250 (FR. 70~78)
DL 17 LONG'L BHD (S SIDE)
SIMILAR TO P. SIDE EXCEPT SPECIFIED.
19φ-410 LADD (A) C=300
19φ-410 LADD (A) C=180
19φ-410 STEP C=90
(BOTH SIDES)
19φ-410 LADD (A) C=775
19φ-410 LADD (A) C=300
L250
FR.70~78
50
54
58
62
66
70
74
78
210230/-7/

317


DET. OF BITT RECESS
P. SIDE
FR 59 SEC.
S. SIDE
SIMILAR TO P. SIDE EXCEPT SPECIFIED
FR 59 SEC.
SIDE FRAMING (S SIDE)
SEE "SIDE PORT DOORS" (D.NO. 4120215-1)
BITT RECESS SEE "DETAIL"
SIDE FRAMING
UPP. DK.
PASS DK (PART DK)
2ND. DK
TAPER
(P SIDE)
SIMILAR TO (S SIDE) EXCEPT SPECIFIED
UPP. DK.
PASS DK (PART DK)
2ND. DK
2102301-8/

318

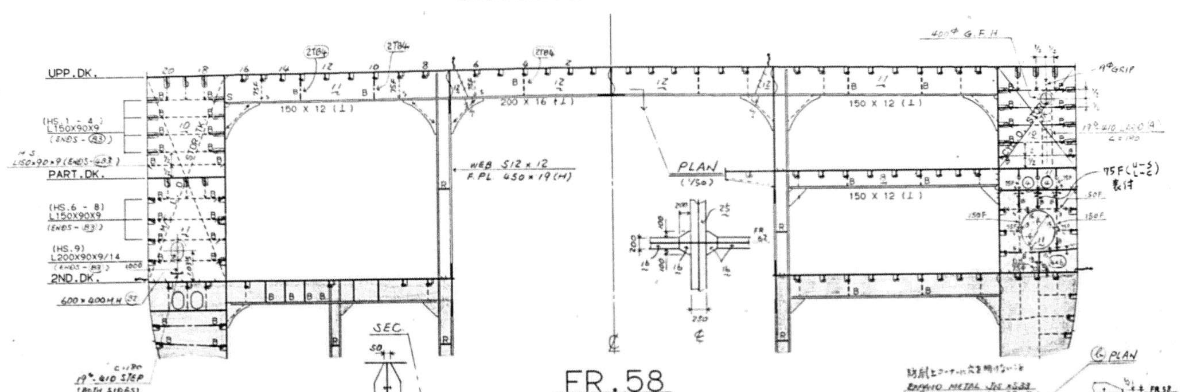


FR. 48
UPP. DK.
PASSAGE DK.
NO.1/2 S.STR.
NO.1 S.STR.
SEC.
PASS. DK.
2ND. DK.
2102301 - 9/
FR. 54
FR. 50
SIMILAR TO FR.66 EXCEPT SPECIFIED
PART. DK.
PASSAGE DK. (PART. DK.)
2102301 - 10/

FR. 62
FR. 58

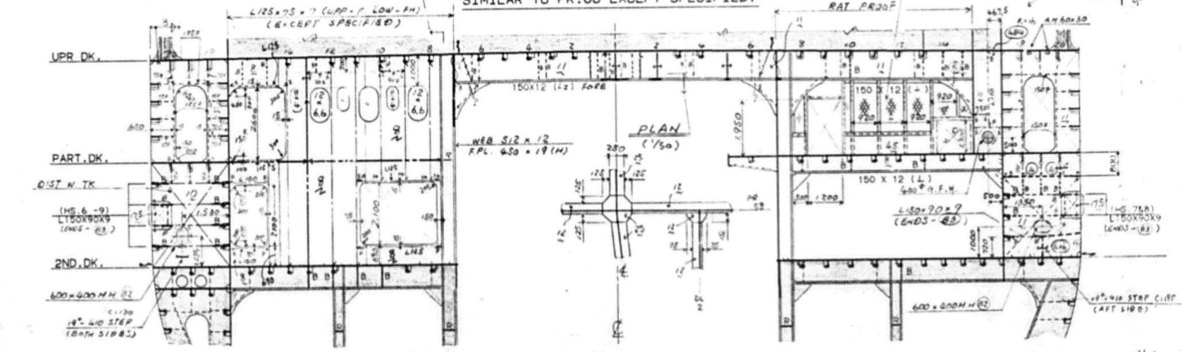
FR. 62

SIMILAR TO FR. 66 EXCEPT SPECIFIED.



FR. 58

SIMILAR TO FR. 66 EXCEPT SPECIFIED.

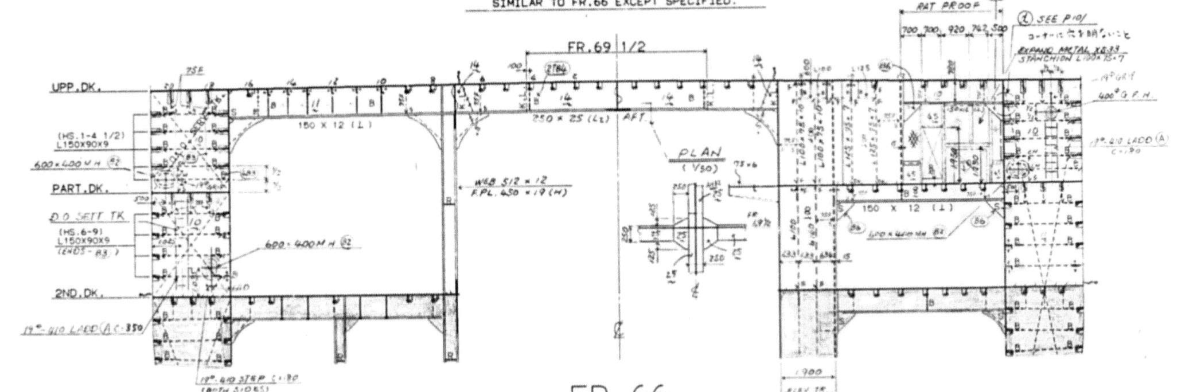


Z102301 — 11/

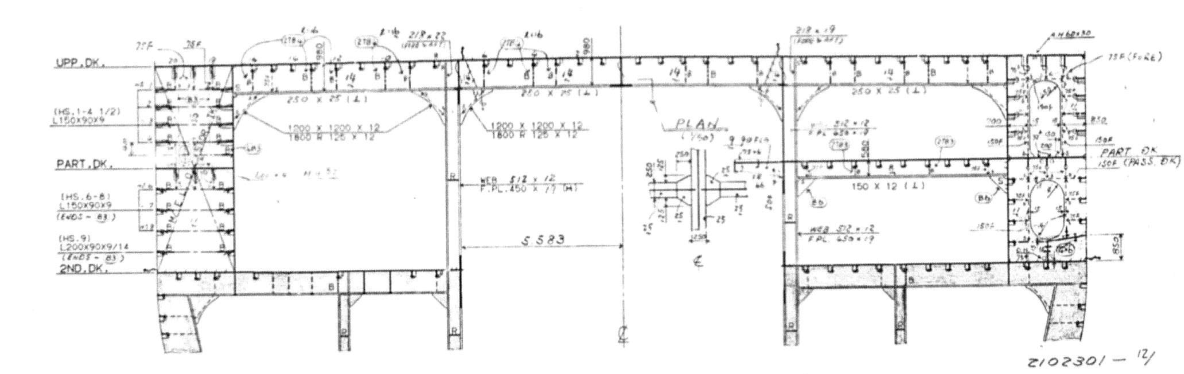
FR. 70
FR. 66

FR. 70

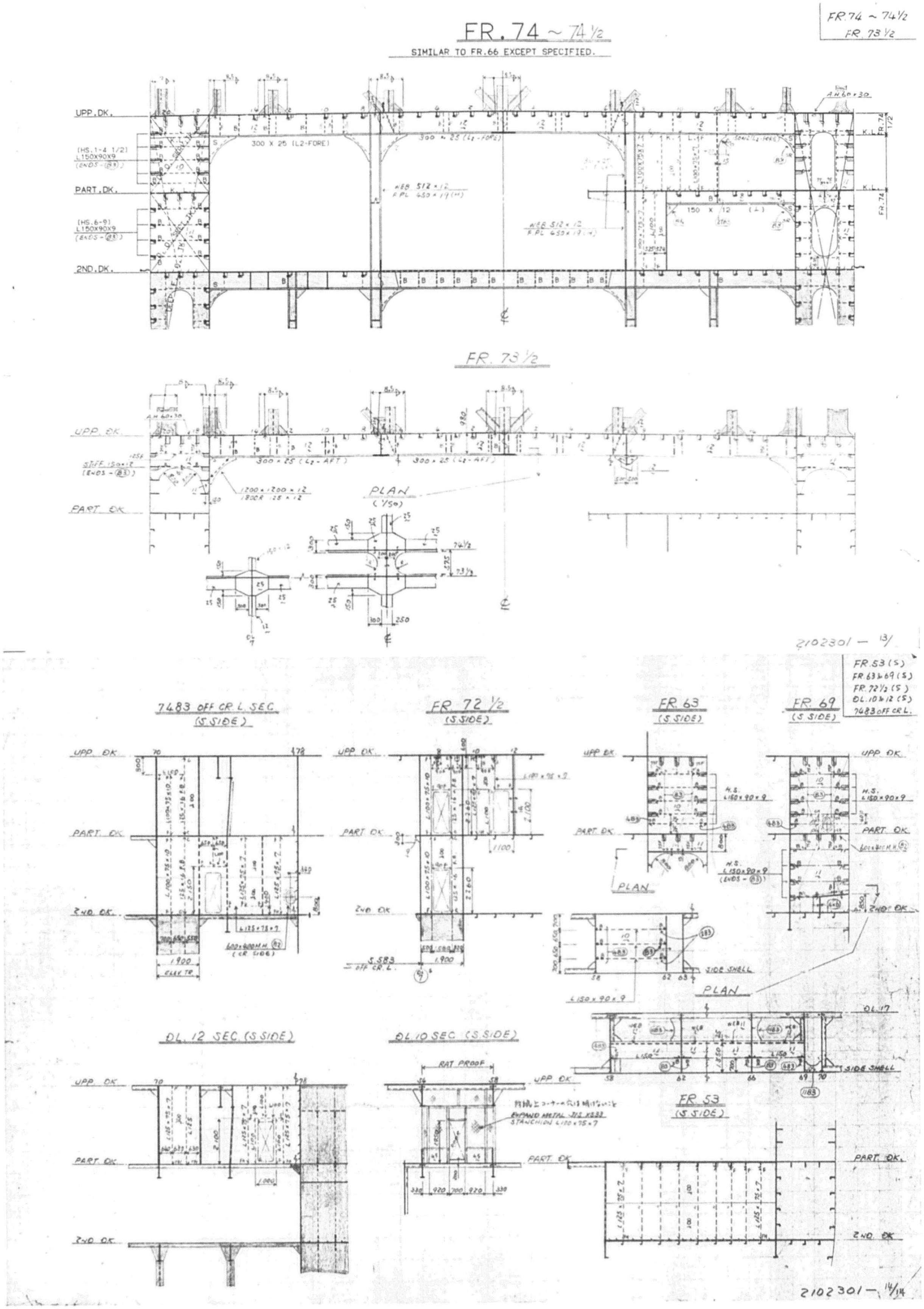
SIMILAR TO FR. 66 EXCEPT SPECIFIED.



FR. 66



Z102301 — 12/


FR.74 ~ 74½
FR.73½
FR.74 ~ 74½
SIMILAR TO FR.66 EXCEPT SPECIFIED.
UPP. DK.
PART. DK.
2ND. DK.
(HS.1-4 1/2) L150X90X9 (ENDS-(B3))
(HS.6-9) L150X90X9 (ENDS-(B3))
300 X 25 (L2-FORE)
150 X 12
FR.73½
UPP. DK.
PART. DK.
STIFF. 150×12 (ENDS-(B3))
300×25 (L2-AFT)
1200×1200×12 1800R ×25×12
PLAN (1/50)
2102301 — 13/
FR.53 (S)
FR.63 & 69 (S)
FR.72½ (S)
DL.10 & 12 (S)
7483 OFF CR.L.
7483 OFF CR.L. SEC. (S SIDE)
FR.72½ (S SIDE)
FR.63 (S SIDE)
FR.69 (S SIDE)
UPP. DK.
PART. DK.
2ND. DK.
PLAN
SIDE SHELL
L150×90×9
DL.17
DL.12 SEC. (S SIDE)
DL.10 SEC. (S SIDE)
RAT PROOF
EXPAND METAL
STANCHION L100×75×7
FR.53 (S SIDE)
2102301 — 14/14

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES 1ST REVISED PLAN		
-10	Ⓐ	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. DELETED OR SHIFTED BUTT JOINTS. 2. MODIFIED SHAPE OF SLOTS ON WEB IN PASSAGE WAY FROM TYPE AM (WITH COLLAR PLATE TYPE AHI) TO TYPE BN. (REFER TO MIDSHIP SECTION) BASED DWG: ~ MES DWG NO. 2102301-A (1ST. REVISED PLAN)	JUN. 20 '85	
-11		FOLLOWED MES PARTLY REVISED PLAN A1 & A2.	JUL. 30. '85	
-20	Ⓑ	1. ADDED BLOCK JOINTS ON UPPER DECK AT INSIDE OF LONGITUDINAL BULKHEAD AND FOR'D SIDE OF FR. 50 TRANS BULKHEAD. 2. DELETED BUTT JOINTS ON UPPER DECK. 3. SHIFTED BLOCK JOINTS ON UPPER DECK AT FOR'D SIDE OF FR. 50 TRANS BULKHEAD AND ON FR. 48 TRANS WEB & FR. 50 TRANS BHD. 4. MODIFIED BLOCK BUTT JOINT ON CENTER LINE LONGITUDINAL BOX GIRDER. 5. ADDED INSERT PLATES ON EACH TRANS WEB IN WAY OF BLOCK SEAM AT INSIDE OF LONGL BULKHEAD AND DELETED CORNER SLOTS. 6. DELETED SEAM JOINT ON C.L. BOX GIRDER AT PORT SIDE.	AUG. 6. '85	
-21		FOLLOWED MES PARTLY REVISED PLAN NO. A3	SEP. 20. '85	
-22		Do. NO. A4	OCT. 30. '85	
-23		Do. NO. A5	NOV. 14. '85	

17 SHEETS WITH COVER

CON-FERRED | SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION | CLASS ABS

APPROVED: To. Hirayama / H. Kokawa — CHECKED: S. Furuhashi — DRAWN — SCALE

機関室上甲板

UPPER DECK IN ENG. RM.

ORDER: 01-15800 (~~01-15800~~, ~~01-16400~~) — DRAWING NO. HS-21420-F — LYKES REF. NO. 110608

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

DRAWN — ISSUED

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	APR. 30 '85	OFTS/MES/357						
1ST REVISED PLAN	June 19 '85	OFTS/MES-573						
PARTLY REVISED PLAN NO. 1	July 9 '85	TAMIZ						

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SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
NO. 1323	~~DOCTOR LYKES~~	NO. 1158	JAMES LYKES
NO. 1324	~~ALMERIA LYKES~~	NO. 1159	~~JOSEPH LYKES~~
NO. 1325	~~TILLIE LYKES~~	NO. 1164	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER — SHIP'S NO. — SHIP'S NAME

STRUCTURE DESIGN SEC. — SEC. CHIEF — ASSIST CHIEF — CHARGE — STAFF — DATE

PARTLY REVISED PLAN NO. 5

機関室上甲板

UPPER DECK IN ENG. RM.

JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 110608 — MITSUI DRAWING NO. 2102301-A6

(3 SHEETS WITH COVER)

1-1/

PLAN RECORD BY MHI (CONTINUE)

ALT. NO.	MARK	DISCRIPTION	DATE	BY
-24		FOLLOWED MES PARTLY REVISED PLAN NO. A6.	MAR. 4. '86	
-F	-	PREPARED AS FINISHED PLAN FOR S. No. 1158	MAR. 11 '87	

0-2/

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED THE APPROVAL OF OWR. & ABS.	MAR. 11. '83
A		REVISED IN ACCORDANCE WITH DISCUSSION RESULT WITH OWR IN TAMANO. (DATED 21ST APR. '84) ABS REQUIREMENTS MISCELLANEOUS REVISION	May 10 '84
A1		MISCELLANEOUS REVISON (DESIGN DEVELOPMENT)	May 10 '85 M.O.
A2		MISCELLANEOUS REVISON	July 26 '85
A3		MISCELLANEOUS REVISON	Sep 11 '85 M.O.
A4		MISCELLANEOUS REVISION (OWNER'S REQUIREMENT)	OCT. 16 '85
A5		MISCELLANEOUS REVISION (PROVIDED THE 75φ DRAIN HOLE AT FR62 & FR66) (OWNER'S REQUIREMENT)	OCT. 30. '85
A6		MISCELLANEOUS REVISION (DESIGN CHANGE ACCORDING TO SPEC E9-** AND DISC MEMO) 設計ミス	FEB. 19, '86

DWG. NO. 2102301-A6-1-2/

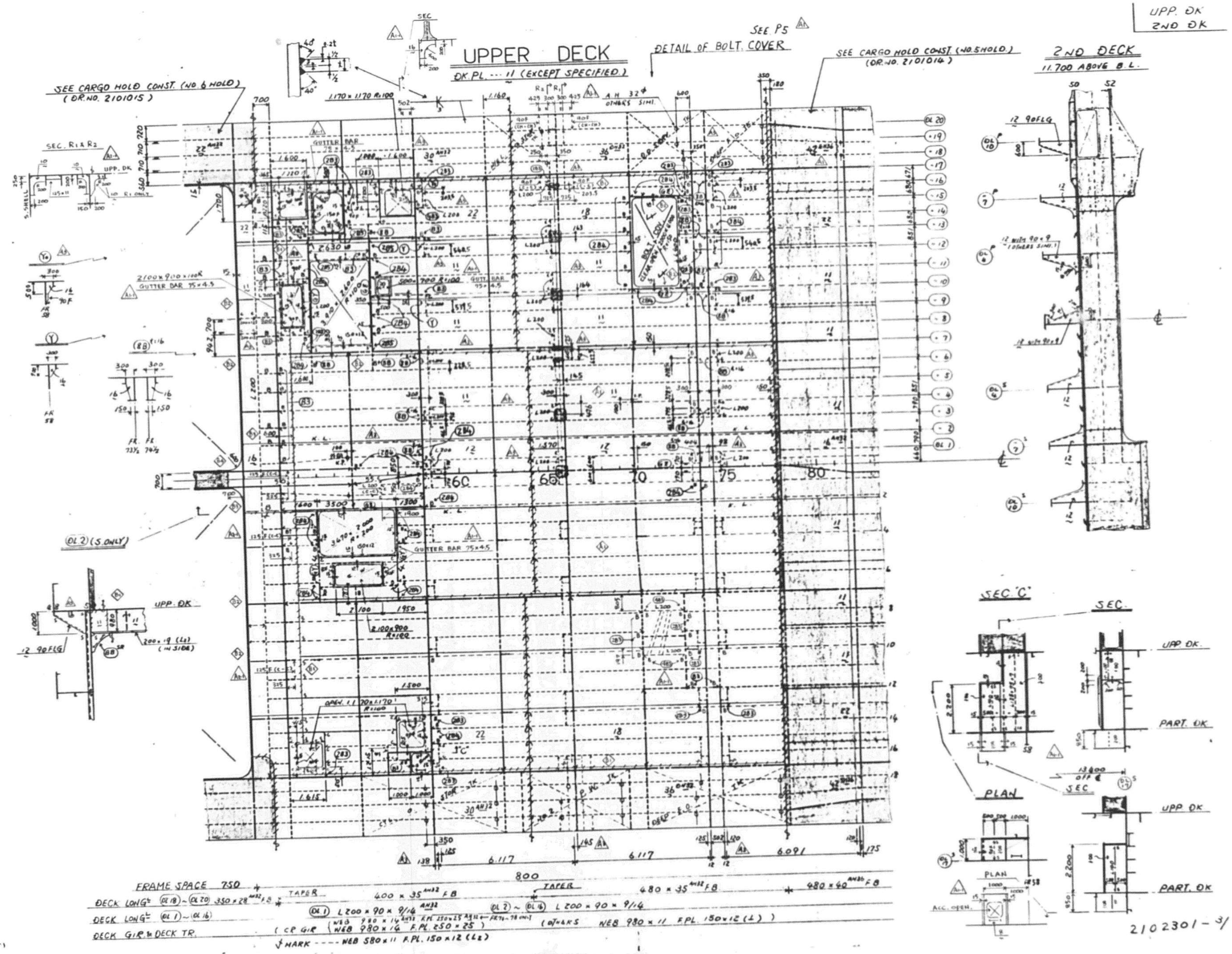
322

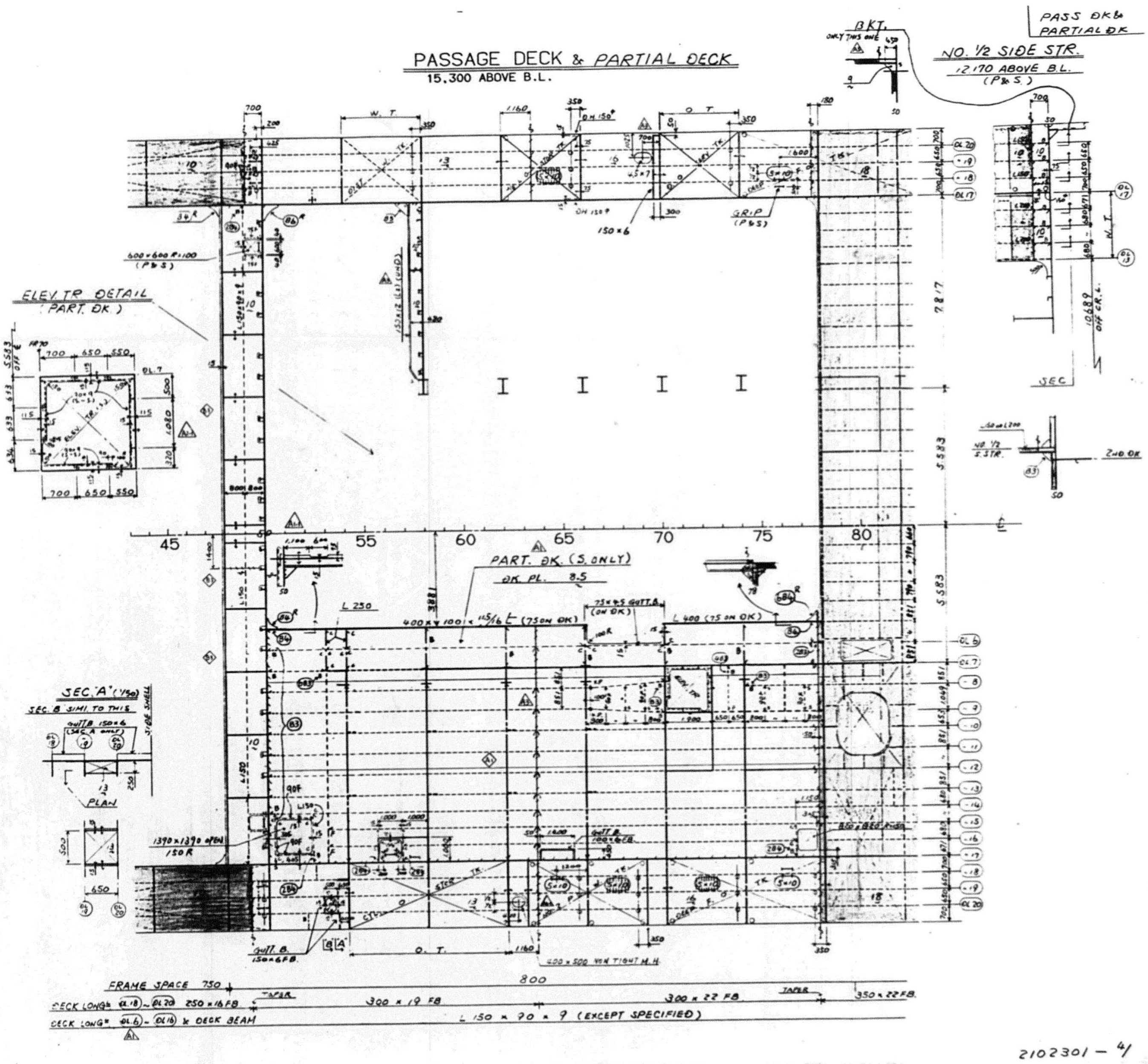
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)"
   FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG
   LENGTH OF WELDING EXCEPT SPECIFIED.

備　考:-

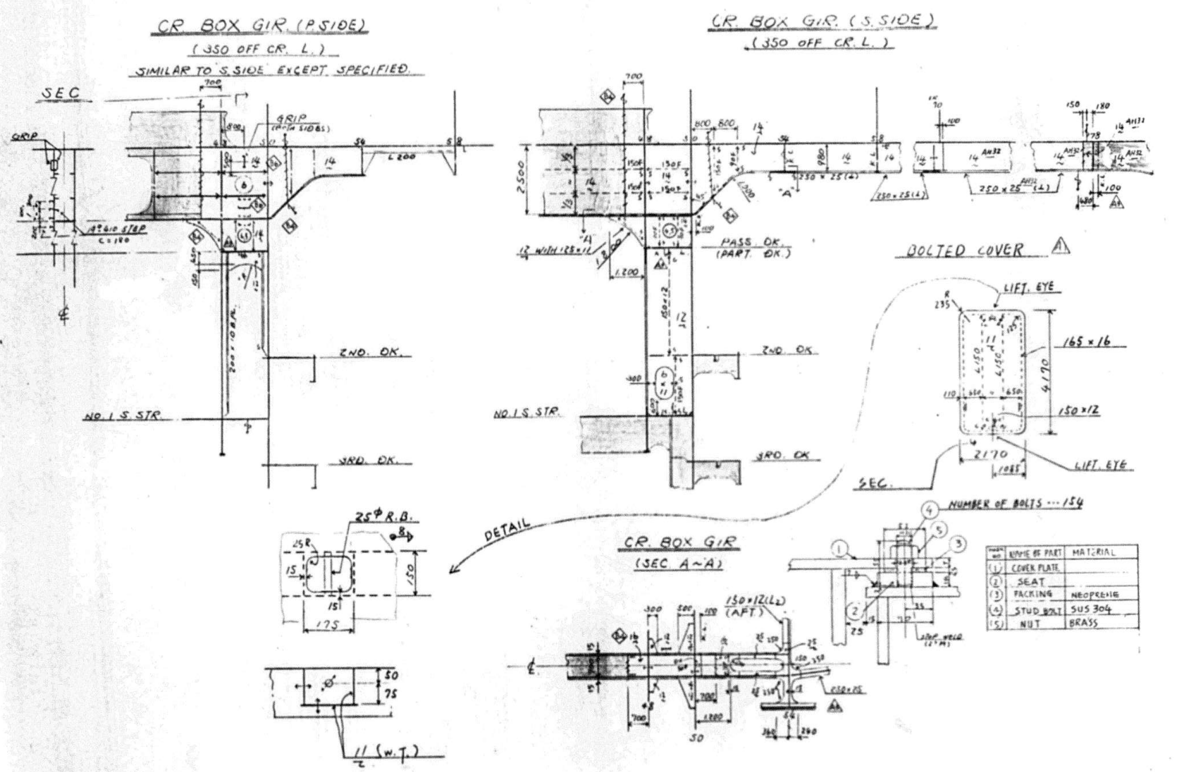
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
   "構造詳細図（図番2100811）"を参照のこと。
4. 溶接脚長については，特記の他は
   "溶接脚長表（図番2100832）"を参照のこと。


UPPER DECK
DK PL. --- 11 (EXCEPT SPECIFIED)
DETAIL OF BOLT COVER
SEE P5
SEE CARGO HOLD CONST. (NO.5 HOLD) (DR. NO. 2101014)
SEE CARGO HOLD CONST. (NO.6 HOLD) (DR. NO. 2101015)
2ND DECK
11.700 ABOVE B.L.
UPP. DK
2ND DK
GUTTER BAR
SEC. 'C'
SEC.
PLAN
UPP. DK
PART. DK
FRAME SPACE 750
DECK LONG'L
DECK GIR. & DECK TR.
TAPER
2102301-3/



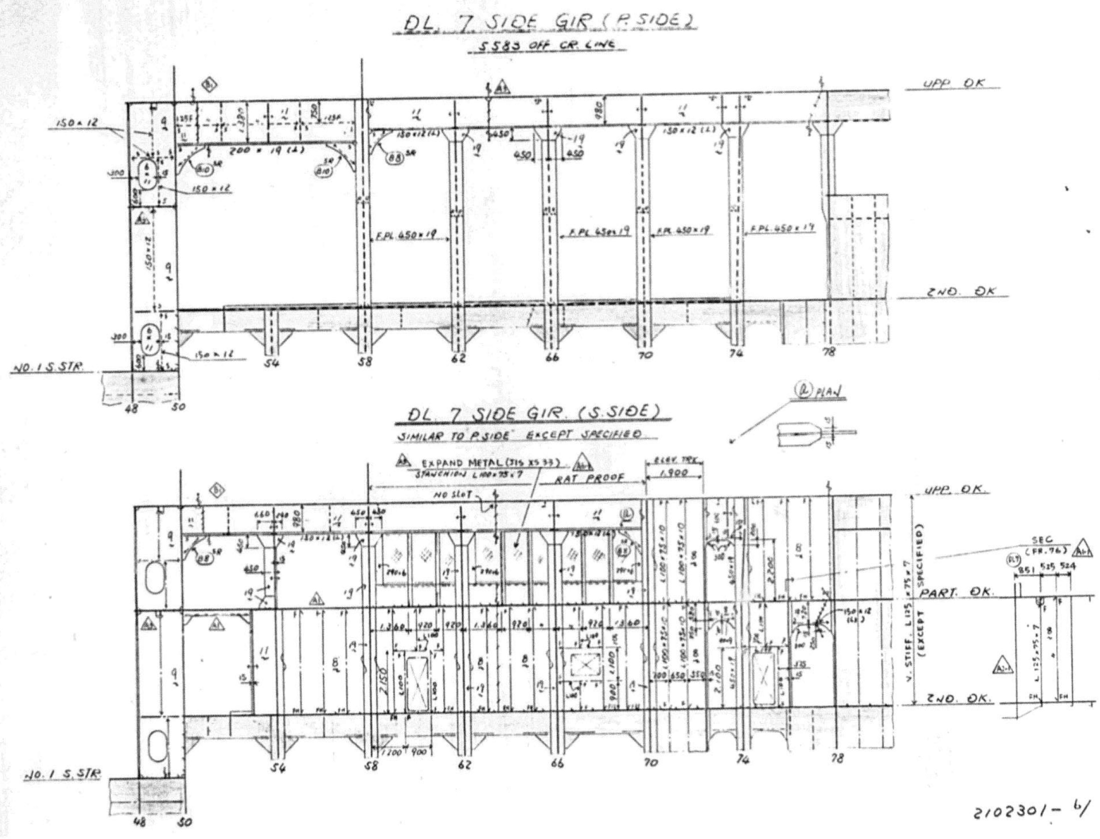
PASSAGE DECK & PARTIAL DECK
15,300 ABOVE B.L.
PASS DK & PARTIAL DK
NO. 1/2 SIDE STR.
12,170 ABOVE B.L. (P & S.)
BKT.
ELEV. TR DETAIL (PART. DK.)
PART. DK. (S. ONLY)
DK PL. 8.5
SEC. 'A' (1/50)
SEC. B SIMI. TO THIS
PLAN
GRIP (P & S)
W. T.
O. T.
FRAME SPACE 750
800
DECK LONG'L 250 × 16 FB
300 × 19 FB
300 × 22 FB
350 × 22 FB
DECK LONG'L & DECK BEAM
L 150 × 90 × 9 (EXCEPT SPECIFIED)
2102301 – 4/

CR. BOX GIR.



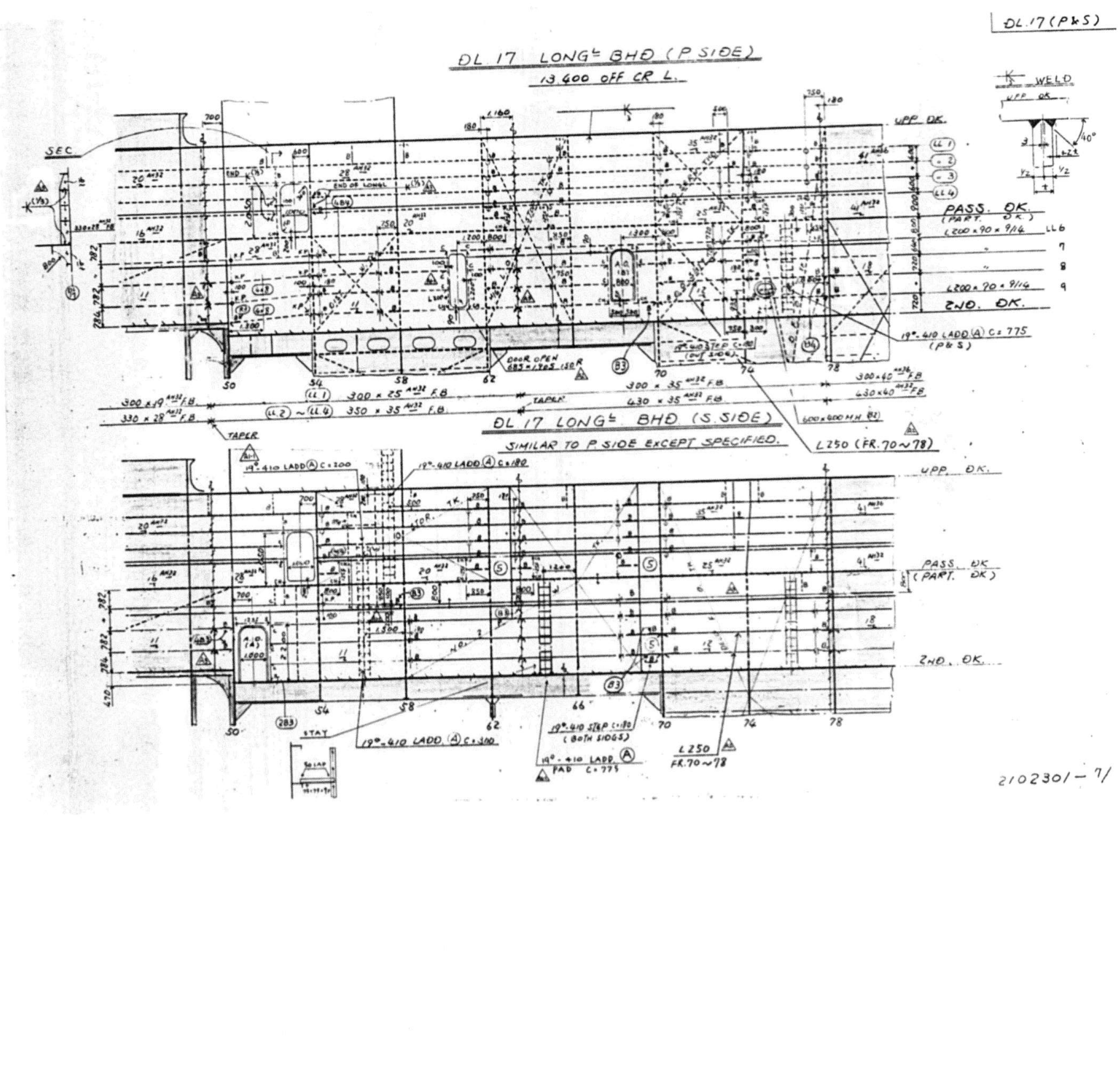
2102301- 5/

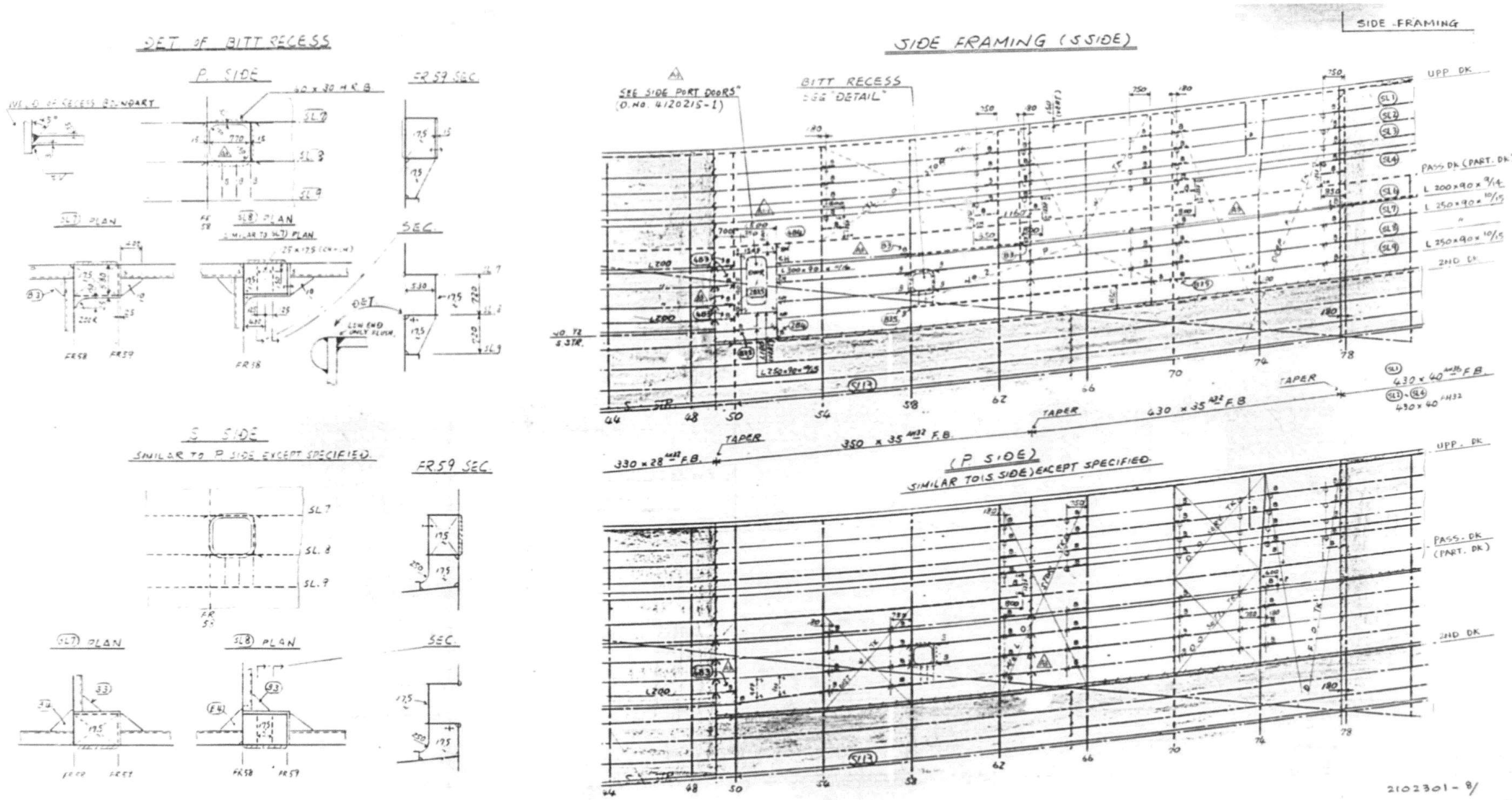
DL 7 (P&S)



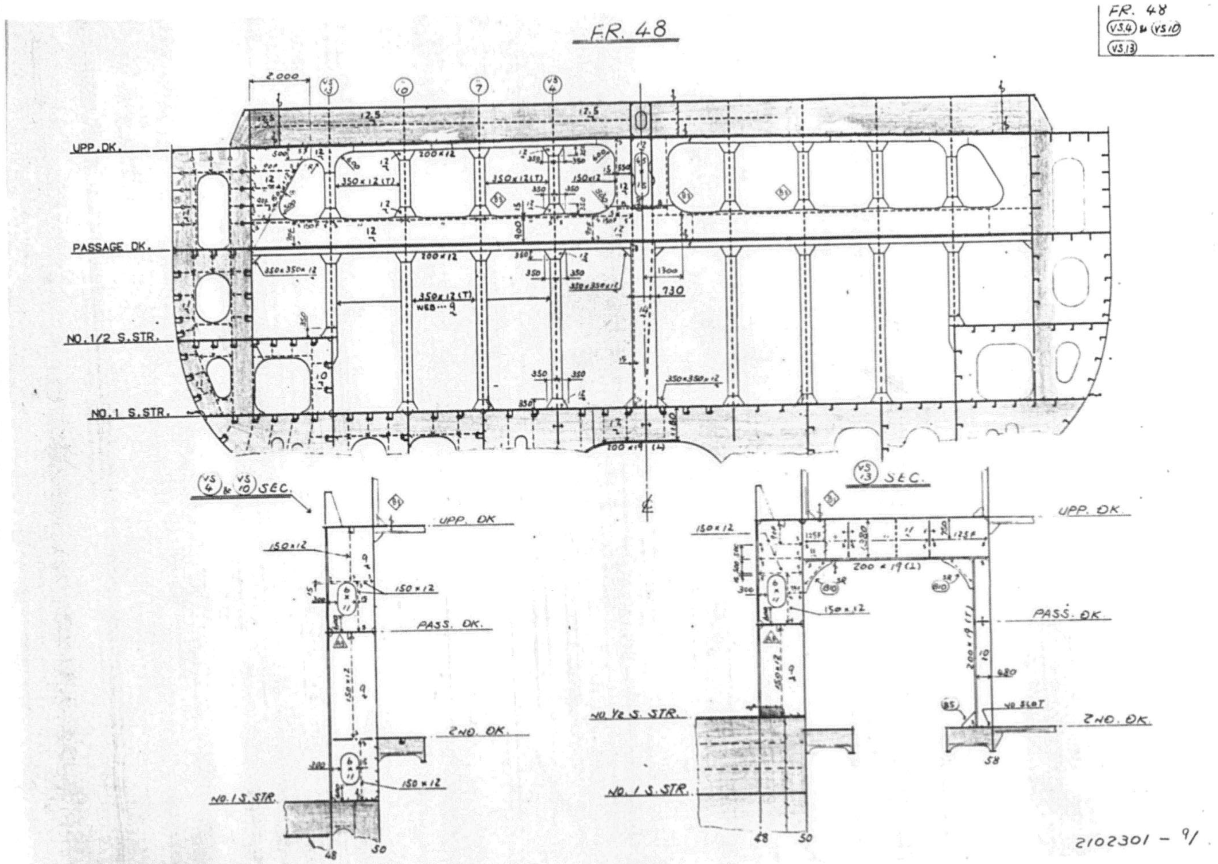
2102301- 6/

326

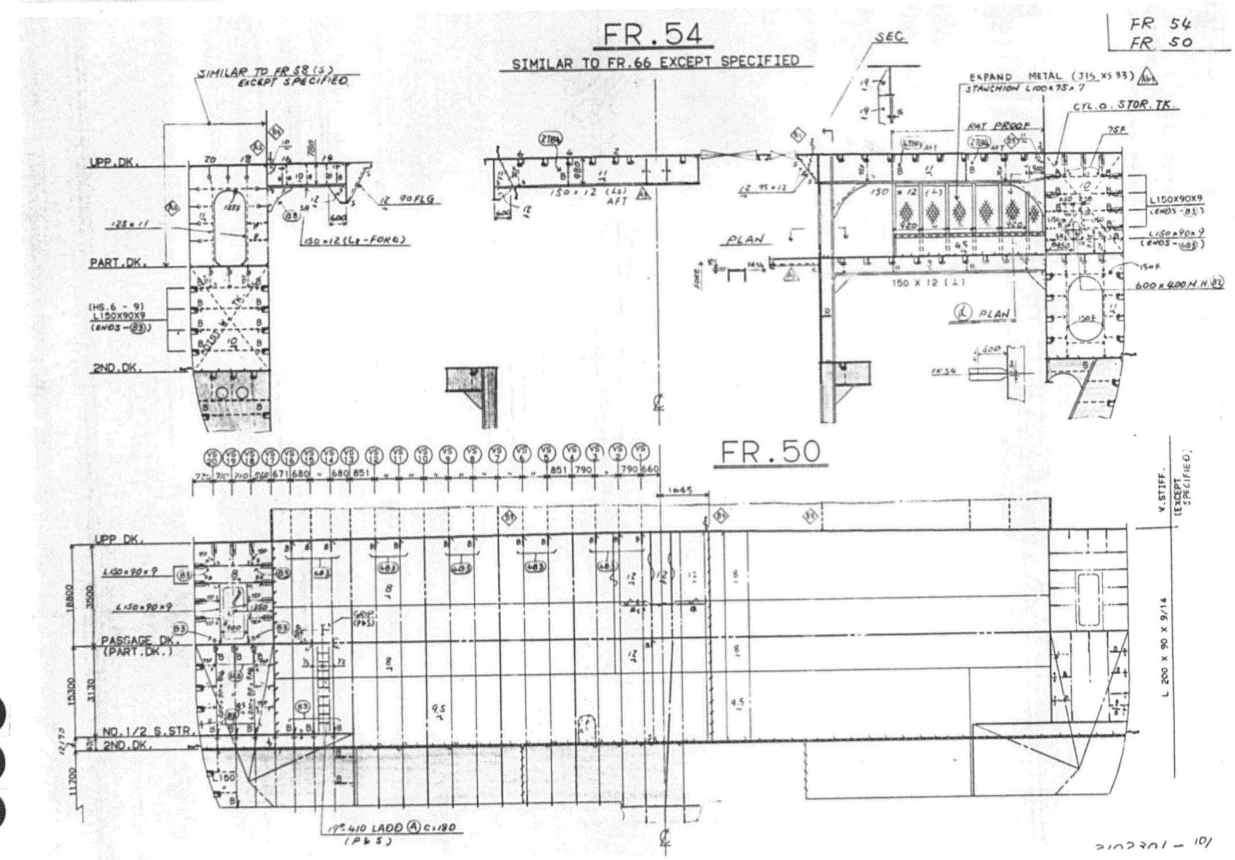

DL 17 (P&S)
DL 17 LONG'L BHD (P SIDE)
13 400 OFF CR L.
WELD
UPP. DK.
PASS. DK.
(PART. DK.)
L200 × 90 × 9/14
2ND. DK.
19° - 410 LADD (A) C = 775
(P&S)
DOOR OPEN
SEC
TAPER
DL 17 LONG'L BHD (S SIDE)
SIMILAR TO P SIDE EXCEPT SPECIFIED.
L250 (FR. 70 ~ 78)
19° - 410 LADD (A) C = 300
19° - 410 LADD (A) C = 180
19° - 410 STEP C = 180
(BOTH SIDES)
19° - 410 LADD. (A)
PAD C = 775
STAY
L250
FR. 70 ~ 78
2102301 - 7/



DET. OF BITT RECESS
P. SIDE
FR 59 SEC.
S. SIDE
SIMILAR TO P SIDE EXCEPT SPECIFIED.
FR 59 SEC.
SIDE FRAMING (S SIDE)
SIDE FRAMING
SEE SIDE PORT DOORS"
(D. No. 4120215-1)
BITT RECESS
SEE "DETAIL"
UPP. DK.
PASS. DK (PART. DK)
2ND DK.
TAPER
330 × 28 F.B.
350 × 35 F.B.
430 × 35 F.B.
(P SIDE)
SIMILAR TO S SIDE EXCEPT SPECIFIED.
2102301-8/

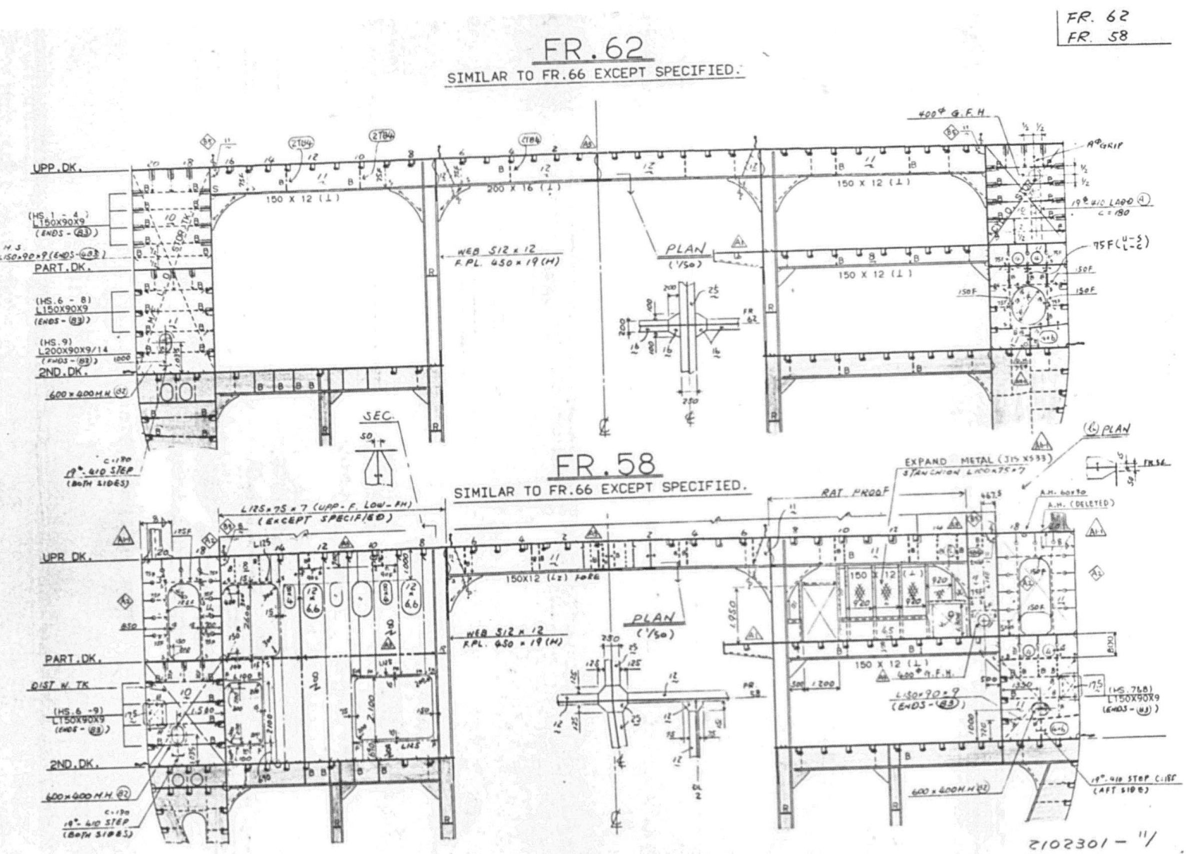


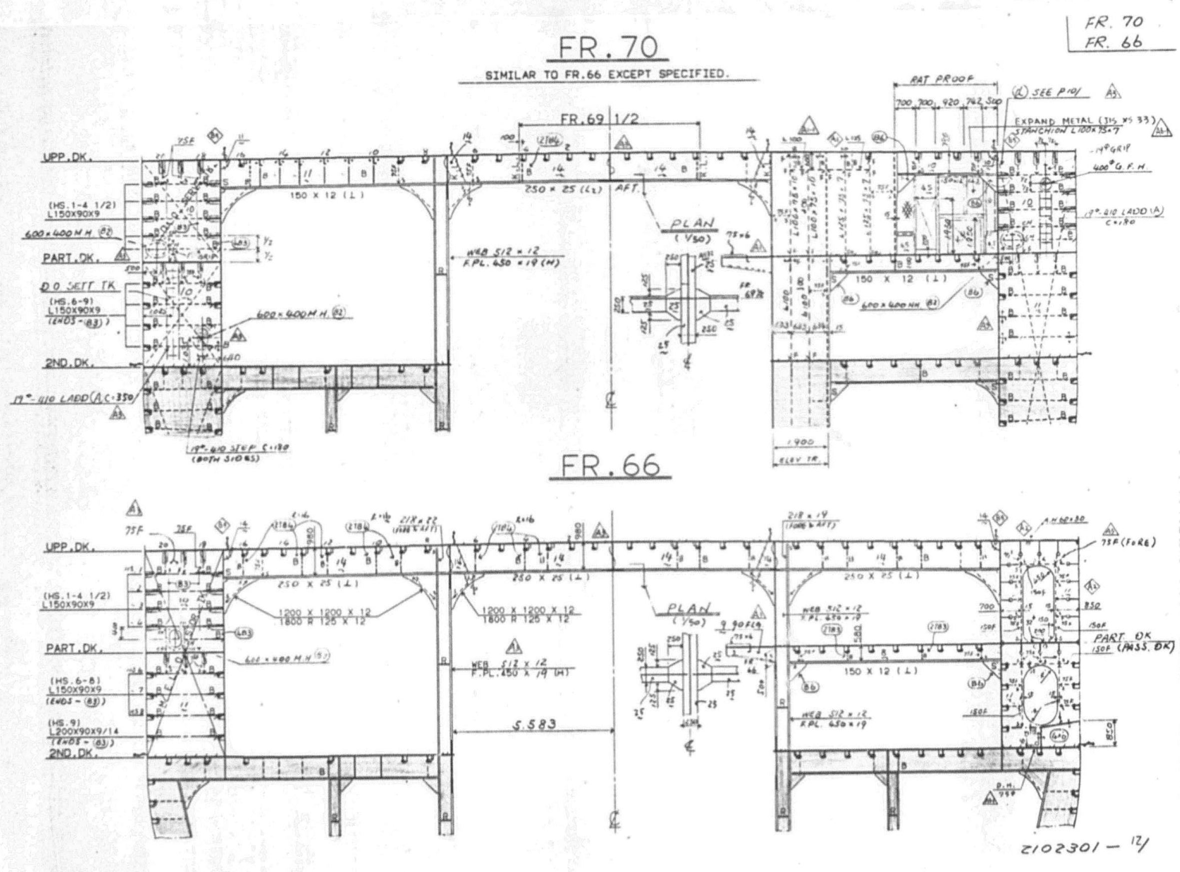
FR. 48
UPP. DK.
PASSAGE DK.
NO.1/2 S.STR.
NO.1 S.STR.
SEC.
PASS. DK.
2ND. DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
2102301 - 91

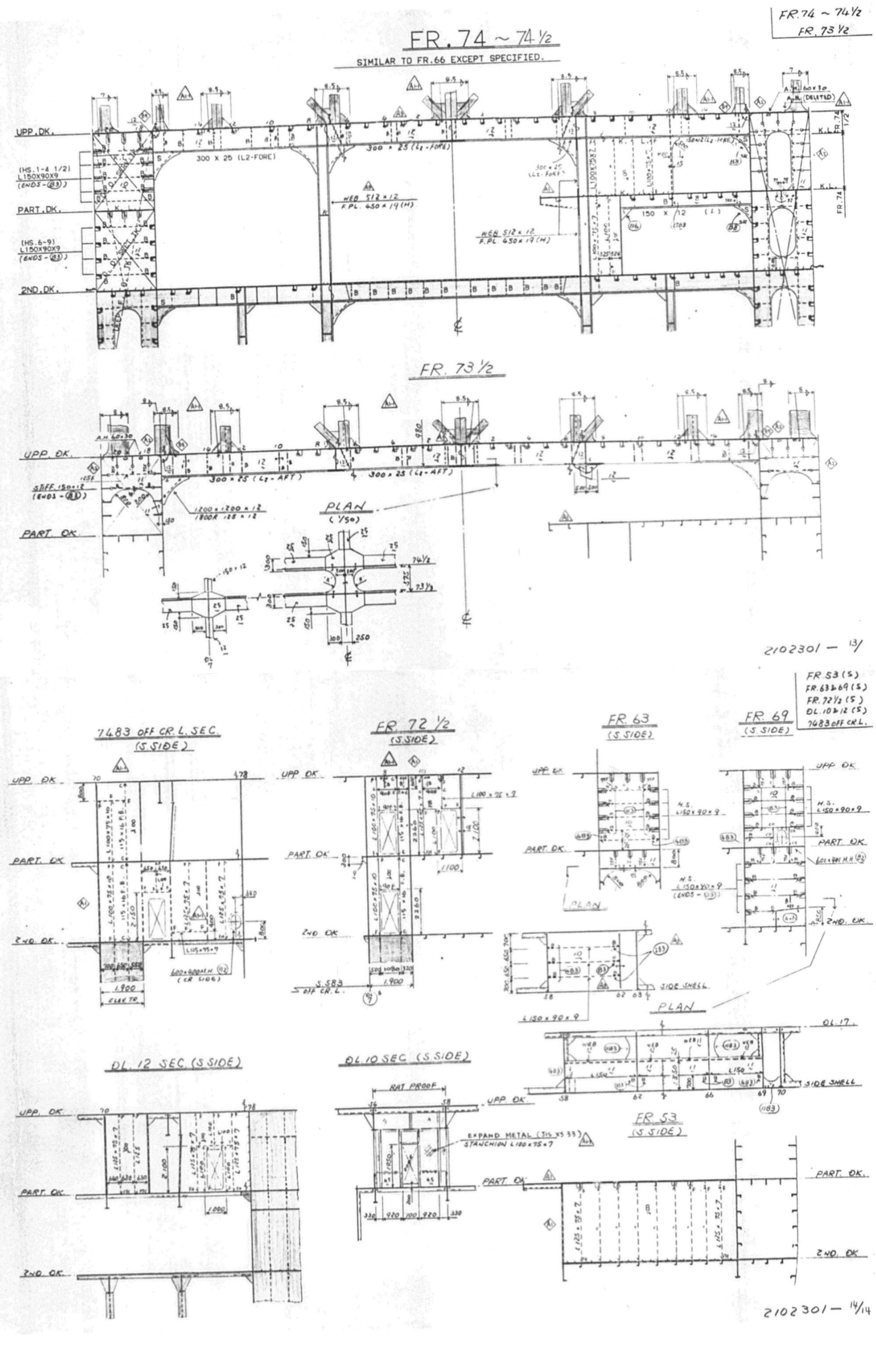


FR 54
FR 50
FR. 54
SIMILAR TO FR. 66 EXCEPT SPECIFIED
SIMILAR TO FR 58 (S) EXCEPT SPECIFIED
SEC.
EXPAND METAL
RAT PROOF
CYL. O. STOR. TK.
PLAN
UPP. DK.
PART. DK.
2ND. DK.
FR. 50
V. STIFF. (EXCEPT SPECIFIED)
L 200 X 90 X 9/14
PASSAGE DK. (PART. DK.)
NO. 1/2 S.STR.
2102301 - 101

329


FR. 62
FR. 58
FR. 62
SIMILAR TO FR. 66 EXCEPT SPECIFIED.
UPP. DK.
PART. DK.
2ND. DK.
150 X 12 (⊥)
200 X 16 (⊥)
WEB 512 x 12
F.PL. 450 x 19 (H)
PLAN (1/50)
400ᶲ G.F.H.
FR. 58
SIMILAR TO FR. 66 EXCEPT SPECIFIED.
SEC.
UPR DK.
PART. DK.
DIST W. TK
2ND. DK.
150X12 (L₂) FORE
RAT PROOF
EXPAND METAL (3½ X 33)
PLAN (1/50)
Z102301 – 11/


FR. 70
FR. 66
FR. 70
SIMILAR TO FR. 66 EXCEPT SPECIFIED.
FR. 69 1/2
UPP. DK.
PART. DK.
D.O. SETT TK
2ND. DK.
150 X 12 (⊥)
250 x 25 (L₂) AFT.
WEB 512 x 12
F.PL. 450 x 19 (H)
PLAN (1/50)
RAT PROOF
EXPAND METAL (3½ X 33)
FR. 66
UPP. DK.
PART. DK.
2ND. DK.
250 X 25 (⊥)
1200 X 1200 X 12
1800 R 125 X 12
WEB 512 x 12
F.PL. 450 X 19 (H)
5.583
PLAN (1/50)
PART. DK (PASS. DK)
Z102301 – 12/


FR.74 ~ 74½
FR.73½
FR. 74 ~ 74½
SIMILAR TO FR.66 EXCEPT SPECIFIED.
UPP.DK.
PART.DK.
2ND.DK.
300 X 25 (L2-FORE)
WEB 512 × 12
F.PL. 450 × 19 (H)
FR. 73½
UPP. DK.
PART. DK.
300 × 25 (L2-AFT)
PLAN
(1/50)
2102301 — 13/
FR.53 (S)
FR.63 & 69 (S)
FR.72½ (S)
DL.10 & 12 (S)
7483 OFF CR.L.
7483 OFF CR.L.SEC.
(S.SIDE)
FR. 72½
(S.SIDE)
FR. 63
(S.SIDE)
FR. 69
(S.SIDE)
SIDE SHELL
PLAN
DL.17
DL.12 SEC.(S.SIDE)
DL.10 SEC (S.SIDE)
RAT PROOF
EXPAND METAL (JIS XS 33)
STANCHION L100×75×7
FR. 53
(S.SIDE)
2ND. DK.
2102301 — 14/14

331

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	29 MAR'86	OFTS/MES-239			26 JUL'86	T-8-2		
1ST PART REV	11 JUN'86	OFTS/MES-501			11 AUG'86	T-8-2		
2ND PART REV	26 NOV'86	TAM/128			18 DEC'86	T-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC. CHIEF
ASST. CHIEF
STAFF
DATE (TEL 2330)

SHIP'S NO. 1325
SHIP'S NAME TILLIE LYKES

シャフトタンネル構造
SHAFT TUNNEL CONST.

JOB NO. TS1323/24/25
JOBCLASSIF. NO.
SCALE 1/100
LYKES REF. NO. 110701
MITSUI DRAWING NO. 2101711

(// SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO. 1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO. 1324 AND S.NO. 1325."	NOV. 28 '86

DWG. NO. 2101711-1/

NOTES:-

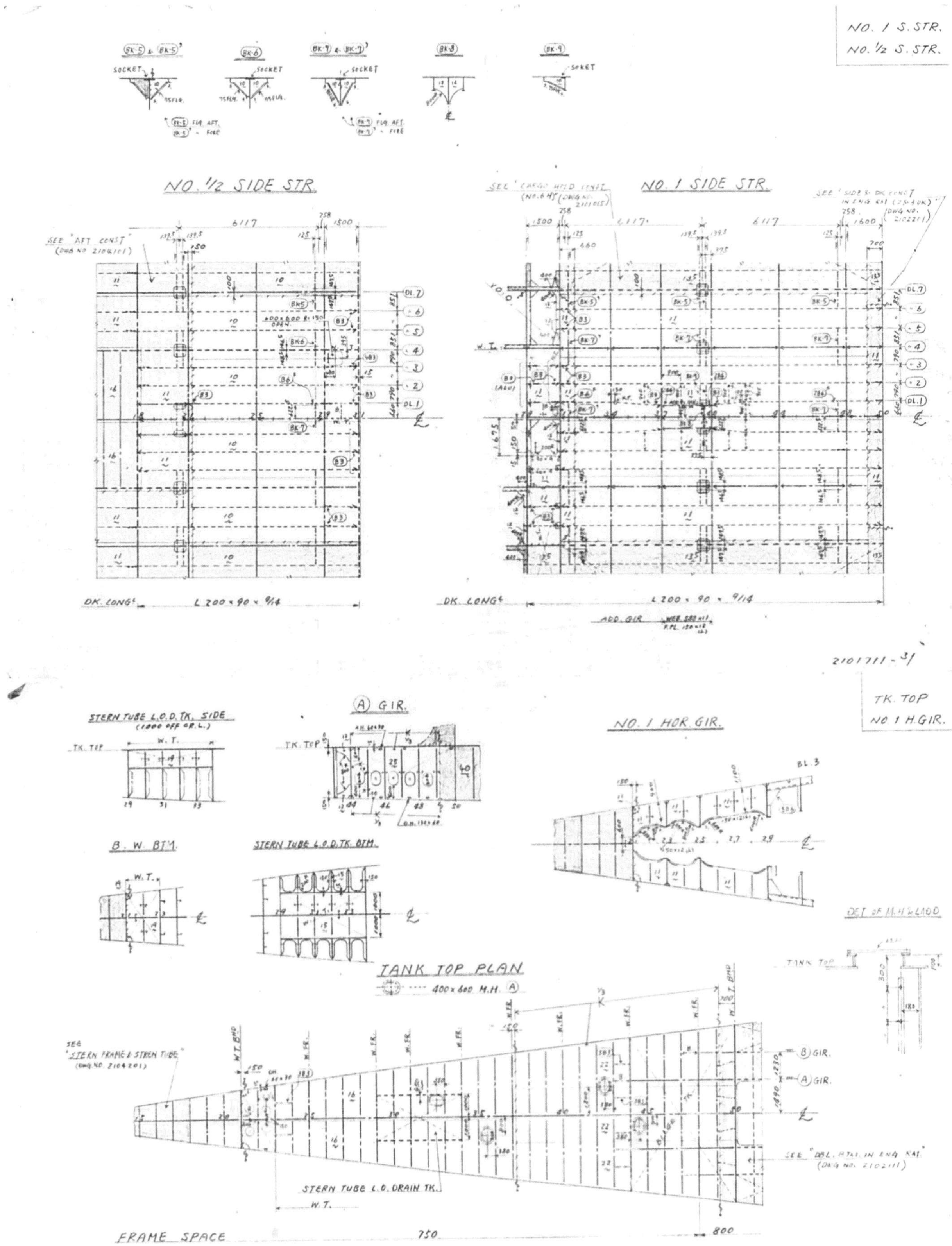
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備 考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
'構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は
'溶接脚長表（図番2100832）'を参照のこと。

2101711-2/

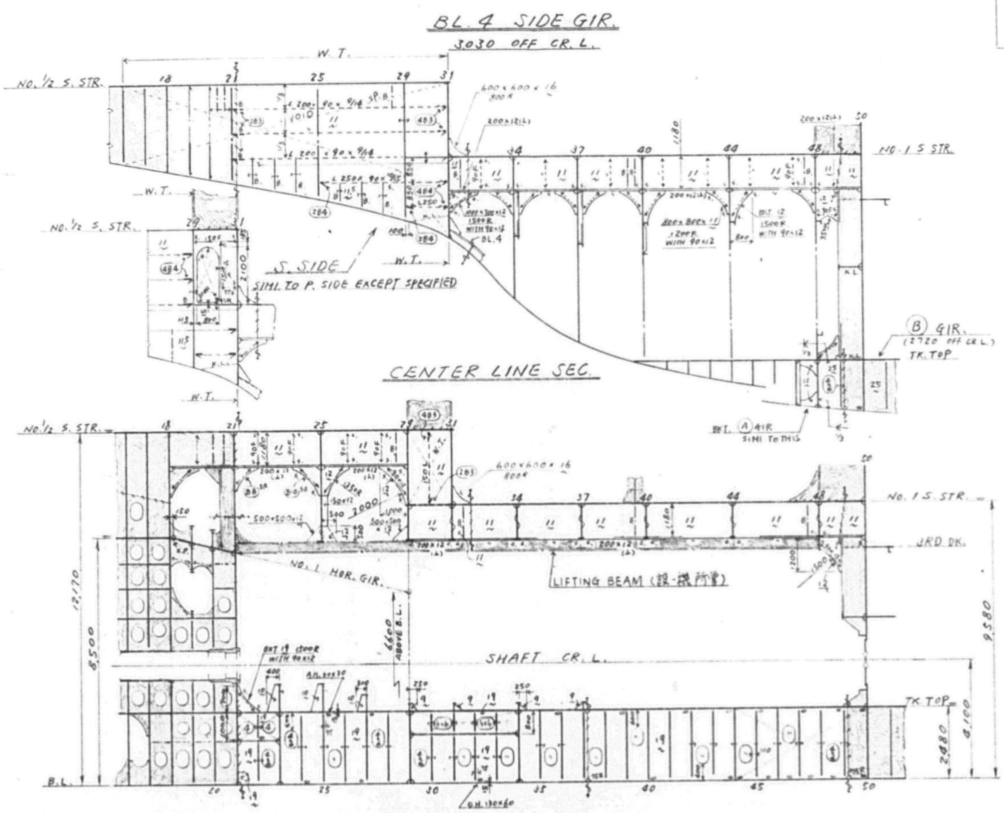
332



NO. 1 S. STR.
NO. 1/2 S. STR.
NO. 1/2 SIDE STR.
NO. 1 SIDE STR.
DK. LONG'L
L 200 × 90 × 9/14
ADD. GIR
2101711 - 3/
TK. TOP
NO. 1 H.GIR.
STERN TUBE L.O.D.TK. SIDE
(A) GIR.
NO. 1 HOR GIR.
B. W. BT'M.
STERN TUBE L.O.D.TK. BT'M.
DET. OF M.H. & L.HOD
TANK TOP PLAN
400 × 600 M.H. (A)
STERN TUBE L.O. DRAIN TK.
FRAME SPACE
750
800
2101711 - 4/

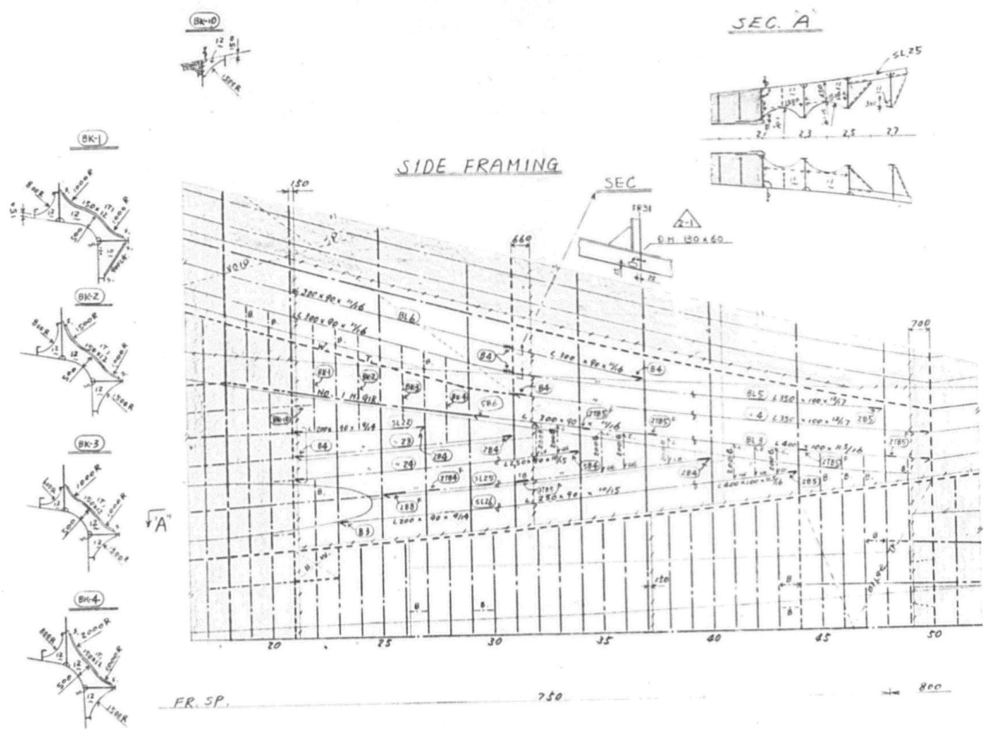
333

CENT. LINE SEC.
BL4 SIDE GIR.

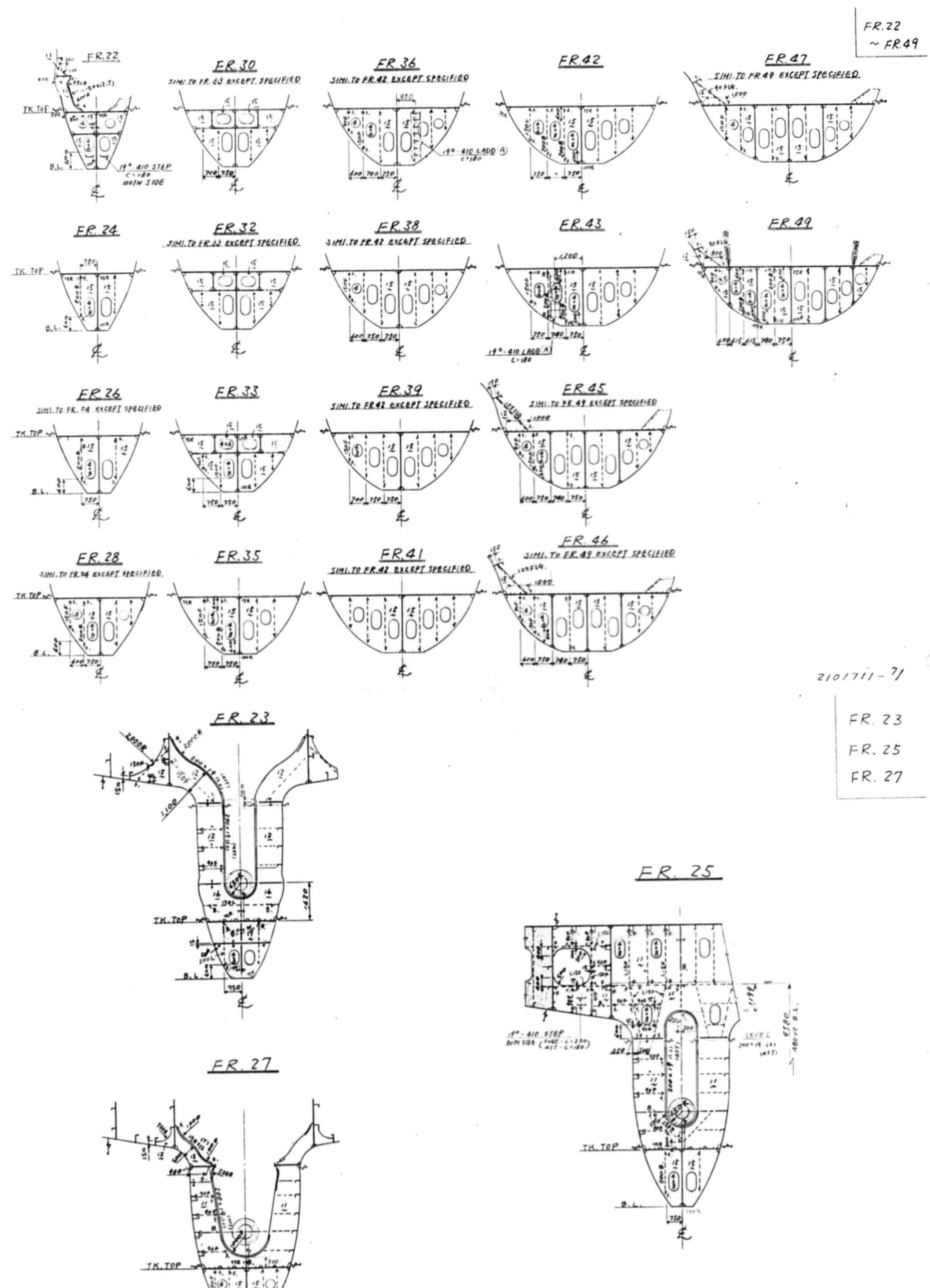


2101711 - 5/

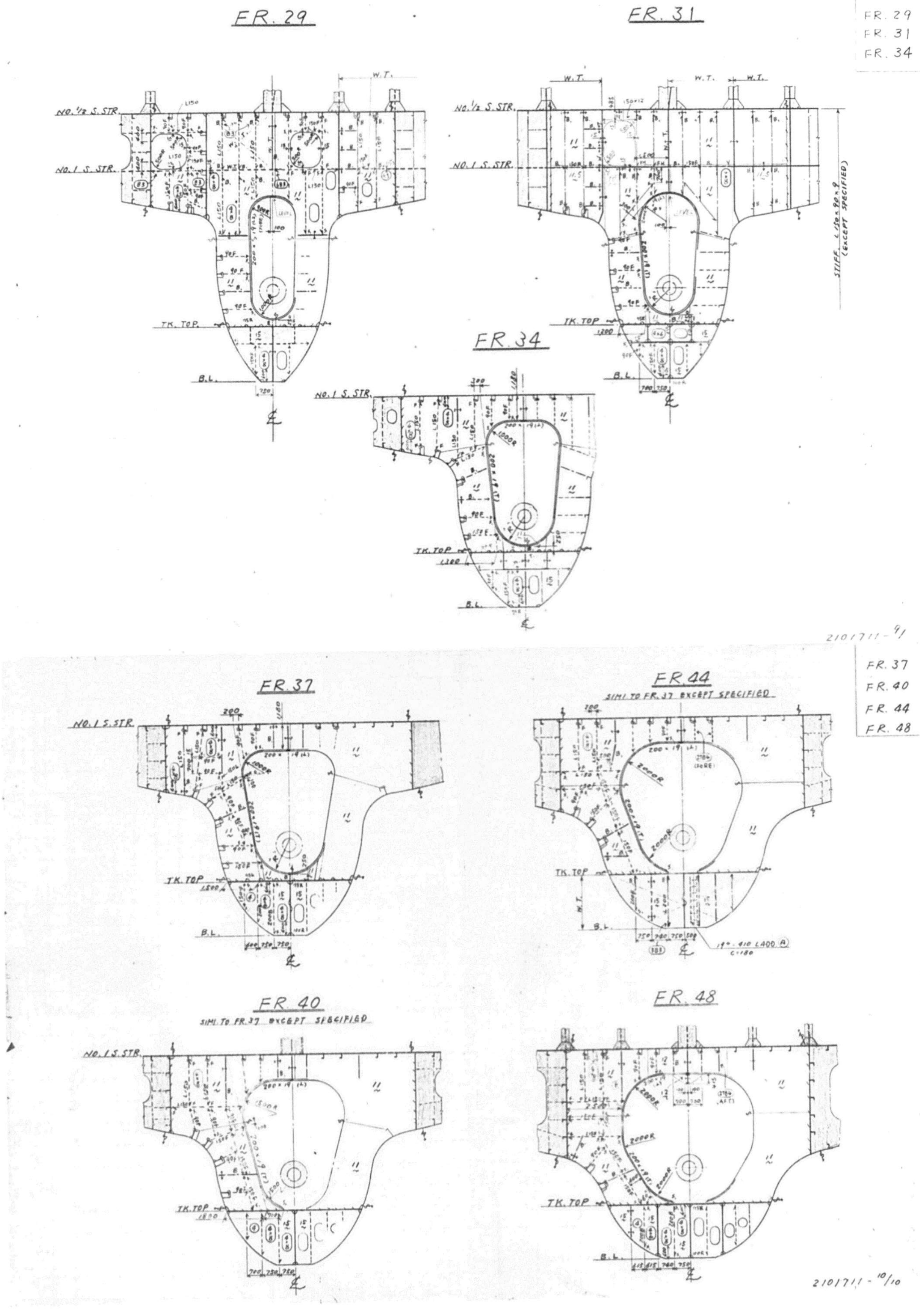
SIDE FRAMING



2101711 - 6/



FR.22
~ FR.49
FR.22
FR.30
SIMI. TO FR.33 EXCEPT SPECIFIED
FR.36
SIMI. TO FR.42 EXCEPT SPECIFIED
FR.42
FR.47
SIMI. TO FR.49 EXCEPT SPECIFIED
FR.24
FR.32
SIMI. TO FR.33 EXCEPT SPECIFIED
FR.38
SIMI. TO FR.42 EXCEPT SPECIFIED
FR.43
FR.49
FR.26
SIMI. TO FR.24 EXCEPT SPECIFIED
FR.33
FR.39
SIMI. TO FR.42 EXCEPT SPECIFIED
FR.45
SIMI. TO FR.49 EXCEPT SPECIFIED
FR.28
SIMI. TO FR.24 EXCEPT SPECIFIED
FR.35
FR.41
SIMI. TO FR.42 EXCEPT SPECIFIED
FR.46
SIMI. TO FR.49 EXCEPT SPECIFIED
TK. TOP
B.L.
2101711-7/
FR. 23
FR. 25
FR. 27
FR. 23
FR. 25
FR. 27
2101711-8/


FR. 29
FR. 31
FR. 34
FR. 29
FR. 31
FR. 34
STIFF. L150×90×9 (EXCEPT SPECIFIED)
NO. 1/2 S. STR.
NO. 1 S. STR.
W.T.
TK. TOP
B.L.
2101711-9/1
FR. 37
FR. 40
FR. 44
FR. 48
FR. 37
FR. 44
SIMI. TO FR. 37 EXCEPT SPECIFIED
FR. 40
SIMI. TO FR. 37 EXCEPT SPECIFIED
FR. 48
2101711-10/10

336

1/2

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN.	APR. 23. '85	
-01		Do. PARTLY REVISED PLAN NO. 1	MAY. 16. '85	
-10	A	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION FOR MHI BULDING SHIPS. 1. REARRANGED SEAM & BUTT JOINTS ON SIDE STRINGER, INNER BOTTOM & TRANS WEB. 2. REARRANGED SEAM JOINTS ON SIDE SHELL IN RELATION TO PRE-FABRICATE. 3. ADDED OR MODIFIED CORNER SLOTS IN WAY OF SEAM JOINTS ON KEEL OR SIDE SHELL. 4. MODIFIED END SHAPE OF STIFF. ON FLOOR UNDER AUX. MACH. SEAT. BASED DWG MES DWG NO. 2101711 (INCL. PARTLY REVISED PLAN NO. 1)	JUL. 25 '85	
-11		FOLLOWED MES PARTLY REVISED PLAN NO. 2	NOV. 14. '85	
-12	B	ADDED TEMP. HOLE ON NO. 1 SIDE STR.	JUL. 9. '86	
-F	-	PREPARED AS FINISHED PLAN FOR S. No. 1158	MAR. 11 '87	

12 SHEETS WITH COVER

CONFERRED — SHIP DESIGNING DEPARTMENT, HULL DESIGNING SECTION

APPROVED: S. Hirayama, H. Kohama — CHECKED: S. Furuhashi — DRAWN — SCALE

CLASS ABS

シャフトタンネル構造
SHAFT TUNNEL CONST.

ORDER: 01-15800 ~~01-15900~~ ~~01-10400~~ — ITEM — DRAWING NO. HS-22400-F — LYKES REF. NO. 110701

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

DRAWN — ISSUED

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL								

SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI-TAMANO~~	MITSUBISHI KOBE
NO. 1323 ~~DOCTOR LYKES~~	NO. 1158 JAMES LYKES
NO. 1324 ~~ALMERIA LYKES~~	NO. 1159 ~~JOSEPH LYKES~~
NO. 1325 ~~TILLIE LYKES~~	NO. 1164 ~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER: T. Oishi — STRUCTURE DESIGN SEC. — SEC. CHIEF — ASSIST. CHIEF: Y. Hayashi — CHARGED ENG'R: Y. Tomatsugu — STAFF

SHIP'S NO. — SHIP'S NAME

PARTLY REVISED PLAN NO. 2

シャフトタンネル構造
SHAFT TUNNEL CONST.

DATE (TEL. 2230) — JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 110701 — MITSUI DRAWING NO. 2101711-2

(3 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS	FEB. 22. '85
1	1-1	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	APR. 25. '85
2	2-1	MISCELLANEOUS REVISION (PROVIDED THE DRAIN HOLE AT (BL5) & (BL6).	OCT. 31. '85

DWG. NO. 2101711-2-1/2

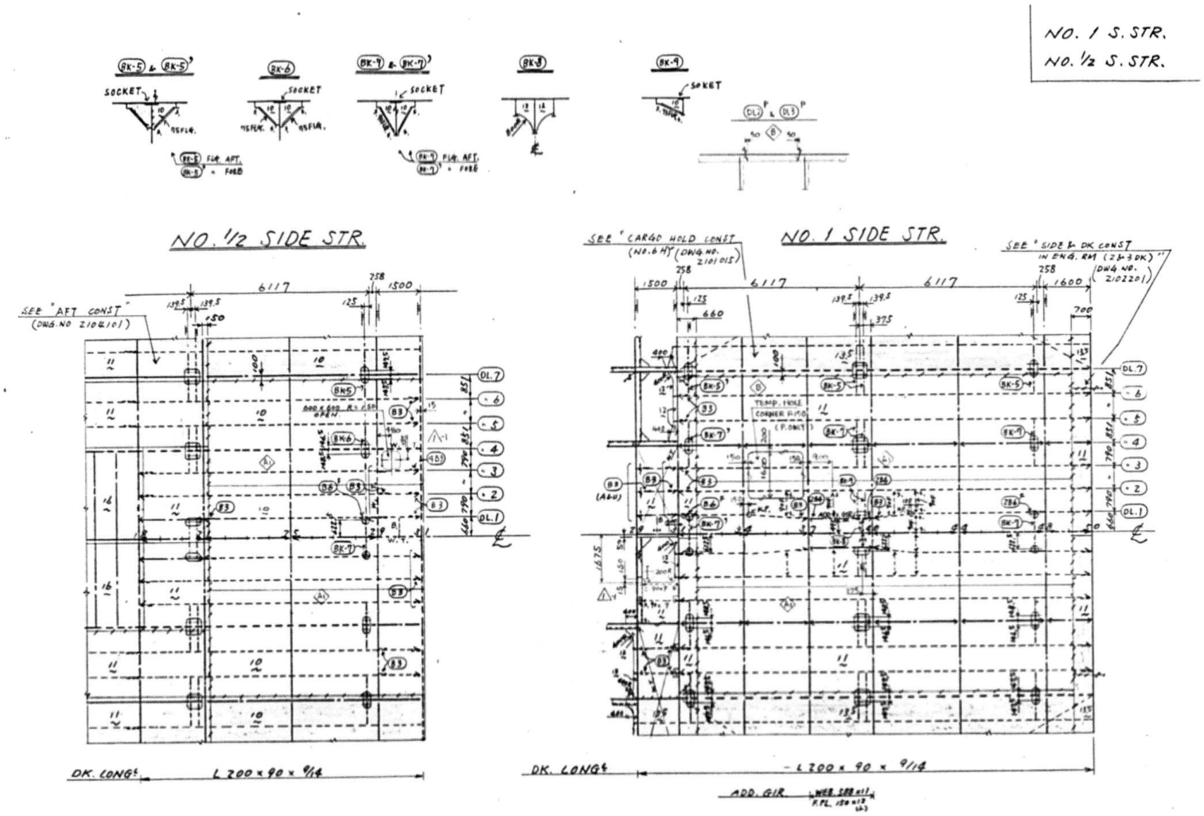
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

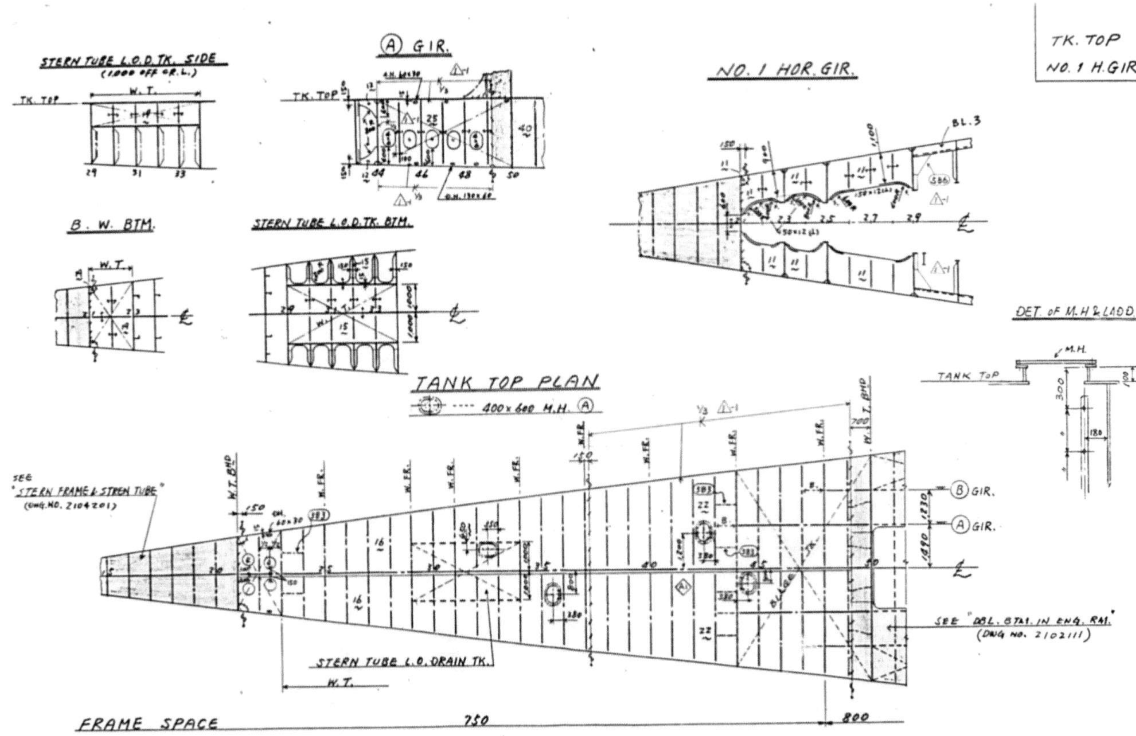
備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は "構造詳細図（図番 2100811）" を参照のこと。
4. 溶接脚長については，特記の他は "溶接脚長表（図番 2100832）" を参照のこと。

2101711-2/

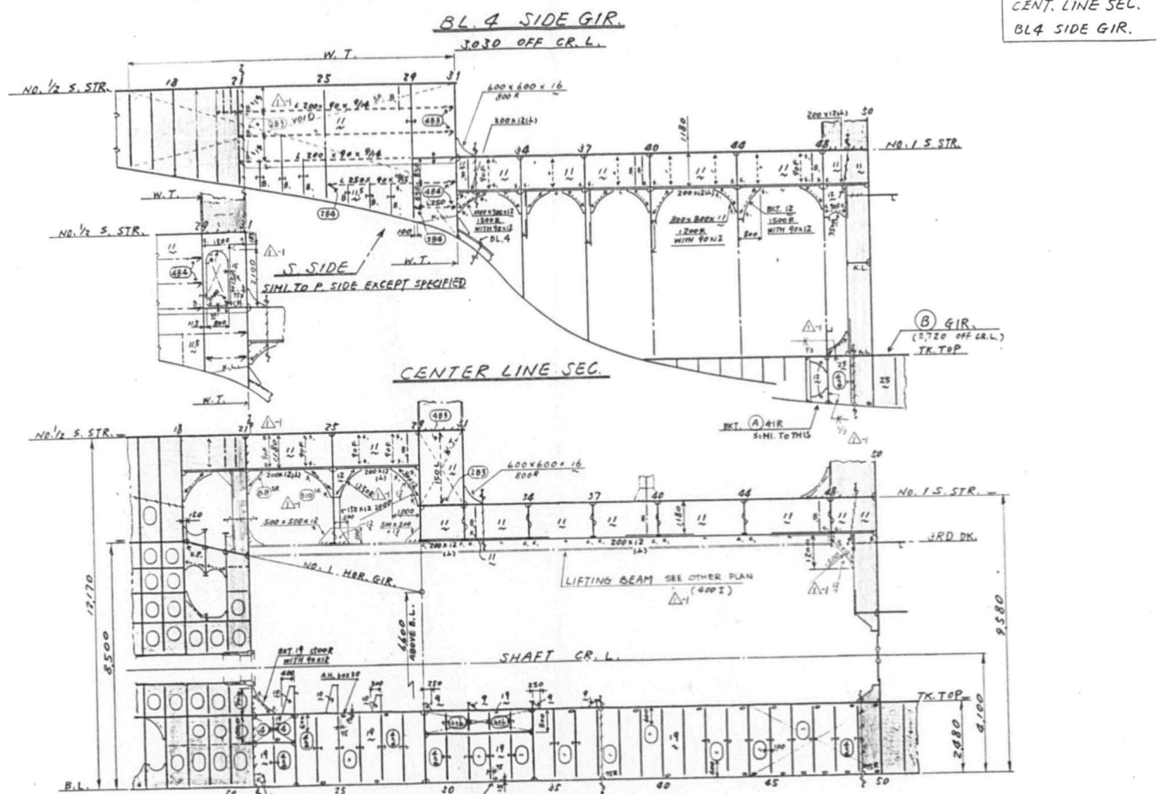


2101711 - 31

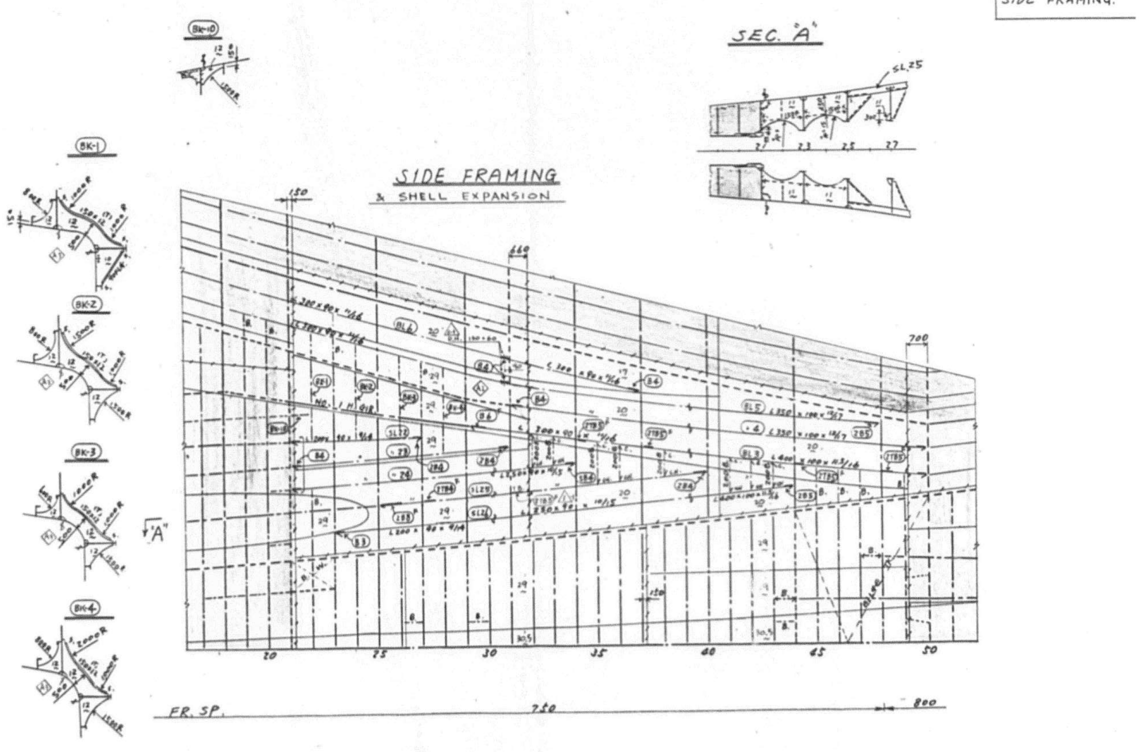


2101711 - 41

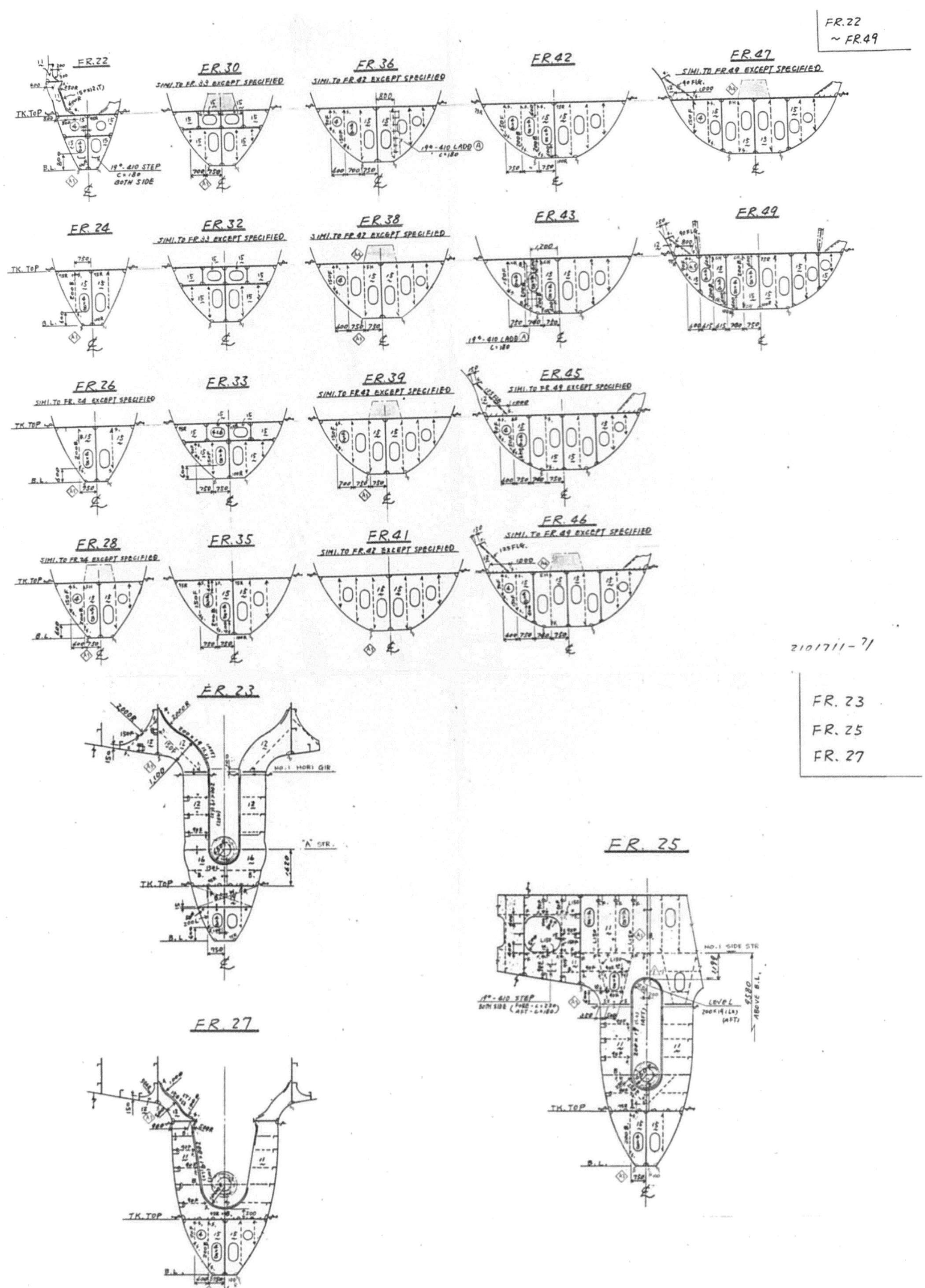
338



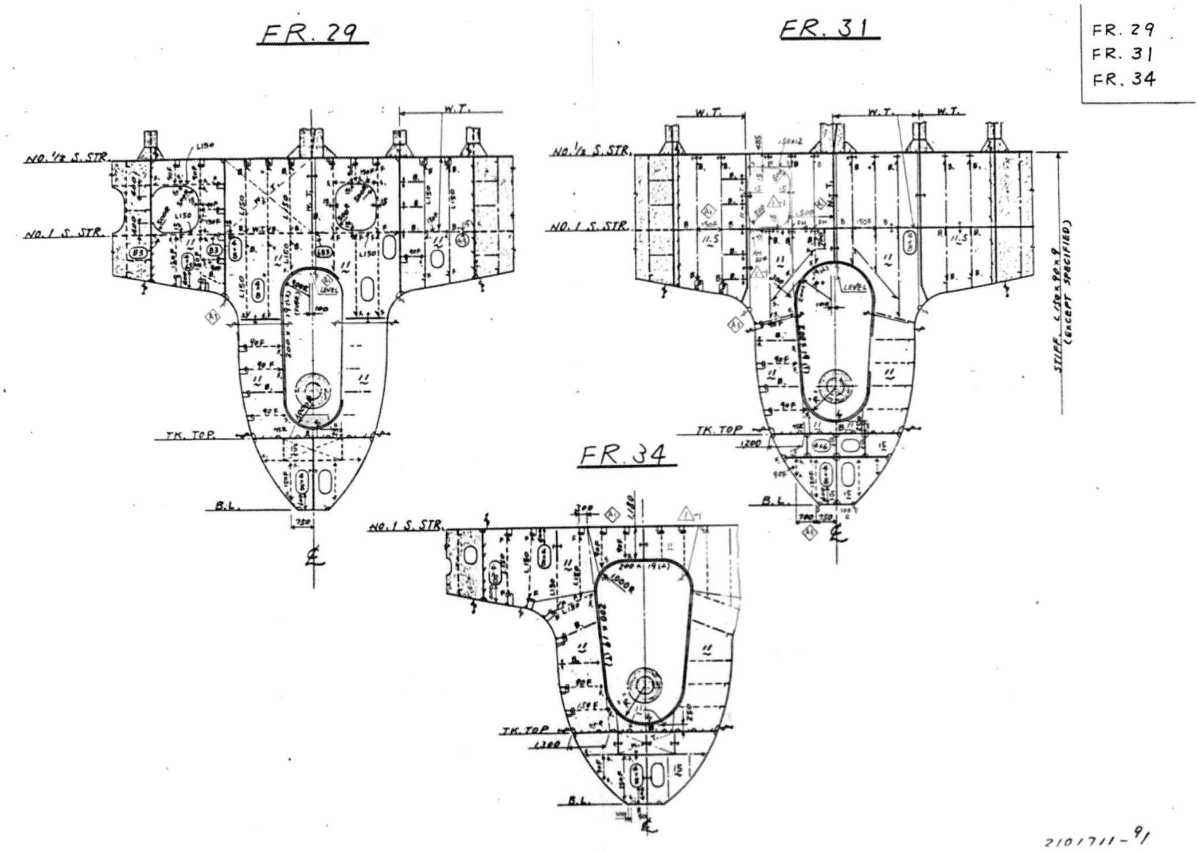
2101711-51

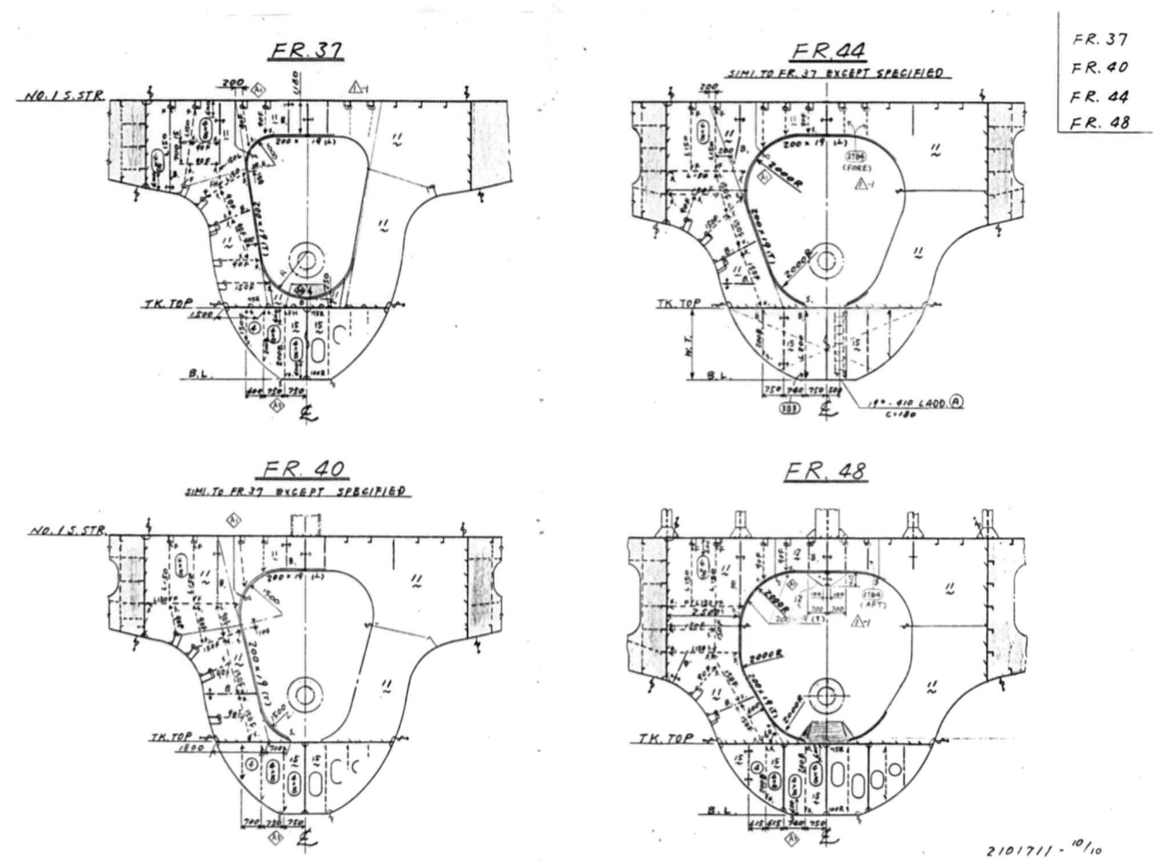


2101711-61

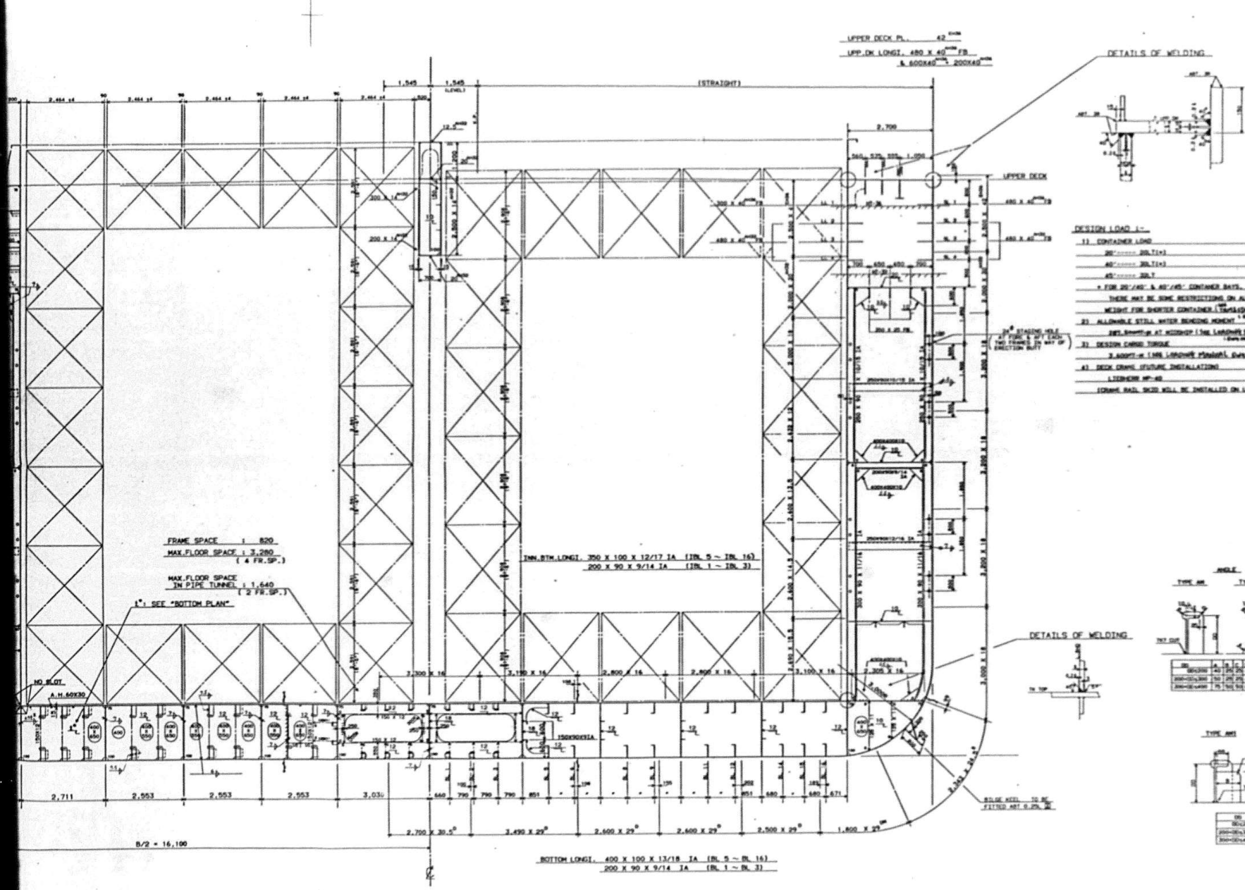

FR.22 ~ FR.49
FR.22
FR.30
SIMI. TO FR.33 EXCEPT SPECIFIED
FR.36
SIMI. TO FR.42 EXCEPT SPECIFIED
FR.42
FR.47
SIMI. TO FR.49 EXCEPT SPECIFIED
FR.24
FR.32
SIMI. TO FR.33 EXCEPT SPECIFIED
FR.38
SIMI. TO FR.42 EXCEPT SPECIFIED
FR.43
FR.49
FR.26
SIMI. TO FR.24 EXCEPT SPECIFIED
FR.33
FR.39
SIMI. TO FR.42 EXCEPT SPECIFIED
FR.45
SIMI. TO FR.49 EXCEPT SPECIFIED
FR.28
SIMI. TO FR.26 EXCEPT SPECIFIED
FR.35
FR.41
SIMI. TO FR.42 EXCEPT SPECIFIED
FR.46
SIMI. TO FR.49 EXCEPT SPECIFIED
TK. TOP
B.L.
19φ-410 STEP C=180 BOTH SIDE
19φ-410 LADD
2101711-7/
FR. 23
FR. 25
FR. 27
FR. 23
NO.1 HORI GIR
"A" STR.
FR. 25
NO.1 SIDE STR
LEVEL
ABOVE B.L.
FR. 27
2101711-8/

340


FR. 29
FR. 31
FR. 34
FR. 29
FR. 31
FR. 34
NO. 1/2 S. STR.
NO. 1 S. STR.
W.T.
TK. TOP
B.L.
STIFF. L 150×90×9 (EXCEPT SPECIFIED)
2101711-9/


FR. 37
FR. 40
FR. 44
FR. 48
FR. 37
FR. 44
SIMI. TO FR. 37 EXCEPT SPECIFIED
FR. 40
SIMI. TO FR. 37 EXCEPT SPECIFIED
FR. 48
NO. 1 S. STR.
TK. TOP
B.L.
2101711-10/10

341



DESIGN LOAD :-

1) CONTAINER LOAD
20' ...... 20LT(*)
40' ...... 30LT(*)
45' 30LT
* FOR 20'/40' & 40'/45' CONTAINER BAYS,
THERE MAY BE SOME RESTRICTIONS ON ALLOWABLE WEIGHT FOR SHORTER CONTAINER
2) ALLOWABLE STILL WATER BENDING MOMENT
3) DESIGN CARGO TORQUE
4) DECK CRANE (FUTURE INSTALLATION)
LIEBHERR HF-40
(CRANE RAIL SKID WILL BE INSTALLED ON UPPER DECK)

CLASS :-

AMERICAN BUREAU OF SHIPPING ✠A1Ⓔ, ✠AMS AND ✠ACCU

PRINCIPAL DIMENSIONS :-

		M
LENGTH	P.P.	245.000
" (SUMMER L.W.L.)		249.100
" (97 % OF L.W.L.)	(FOR SCANTLING)	241.627
BREADTH	MLD.	32.200
DEPTH	"	18.800
DRAFT (FOR SCANTLING)	"	11.880
BLOCK COEFFICIENT (FOR SCANTLING)		0.654

MATERIALS :-

1) ALL PLATES NOT EXCEEDING 12.5 M/M IN THICKNESS TO BE OF "GRADE A RIMMED STEEL".
2) PLATES EXCEEDING 12.5 M/M IN THICKNESS TO BE OF "GRADE A SEMI-KILLED STEEL" EXCEPT SPECIALLY MARKED AS FOLLOWS.

		MINIMUM YIELD STRESS
B	--- "GRADE B" SEMI-KILLED STEEL.	
D	--- "GRADE D" SEMI-KILLED STEEL. (NORMALIZED)	
DN	--- "GRADE D" KILLED STEEL. (NORMALIZED)	
AH32	--- "GRADE A" HIGHER TENSILE STEEL.	32
AH36	--- "GRADE A" HIGHER TENSILE STEEL.	36
DH36	--- "GRADE D" " " "	"
EH36	--- "GRADE E" " " "	"

SYMBOLS :-

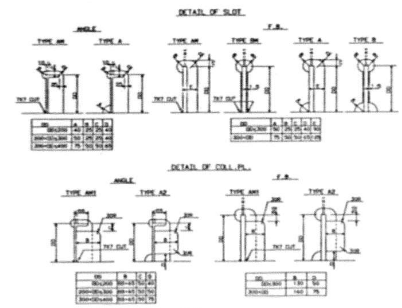
- S : SNIPPED END
- C : CLIPPED END
- : BUTT WELDING
- : SHOP OR ERECTION WELDING
- : MANUAL OR AUTOMATIC DOUBLE CONT. FILLET WELDING

NOTE :-

1) ALL FILLET WELDINGS ARE TO HAVE A LEG LENGTH OF 5 M/M EXCEPT SPECIFIED.
2) ADDITIONAL WELDING BUTTS WILL BE PROVIDED WHERE NECESSARY FOR BUILDING CONVENIENCE.

DETAIL OF SLOT

DETAIL OF COLL.PL.



NOTE :-

TYPE A,B & A2 TO BE USED AT WHICH DRAINAGE IS NECESSARY (TANK BTM, DUCT KEEL BTM)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		PREPARED THE S.NO.1323 FINISHED PLAN, WHICH APPLICABLE TO S.NO.1324 AND S.NO.1325	

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	ABS DATE	ABS LETTER NO.	DATE	LETTER NO.
ORIGINAL	[illegible]	[illegible]	[illegible]	T-P->		
1ST REV	—	—	[illegible]	T-P->		

FINISHED PLAN

SHIPYARD AND SHIP'S NO. & NAME

MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

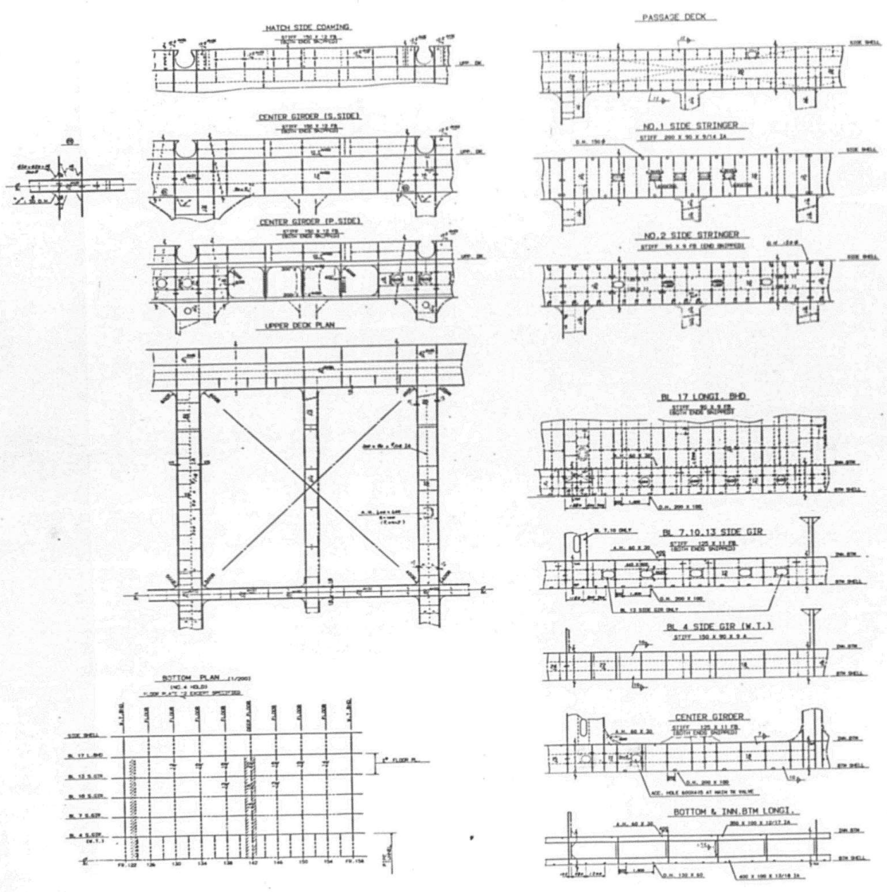
MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.

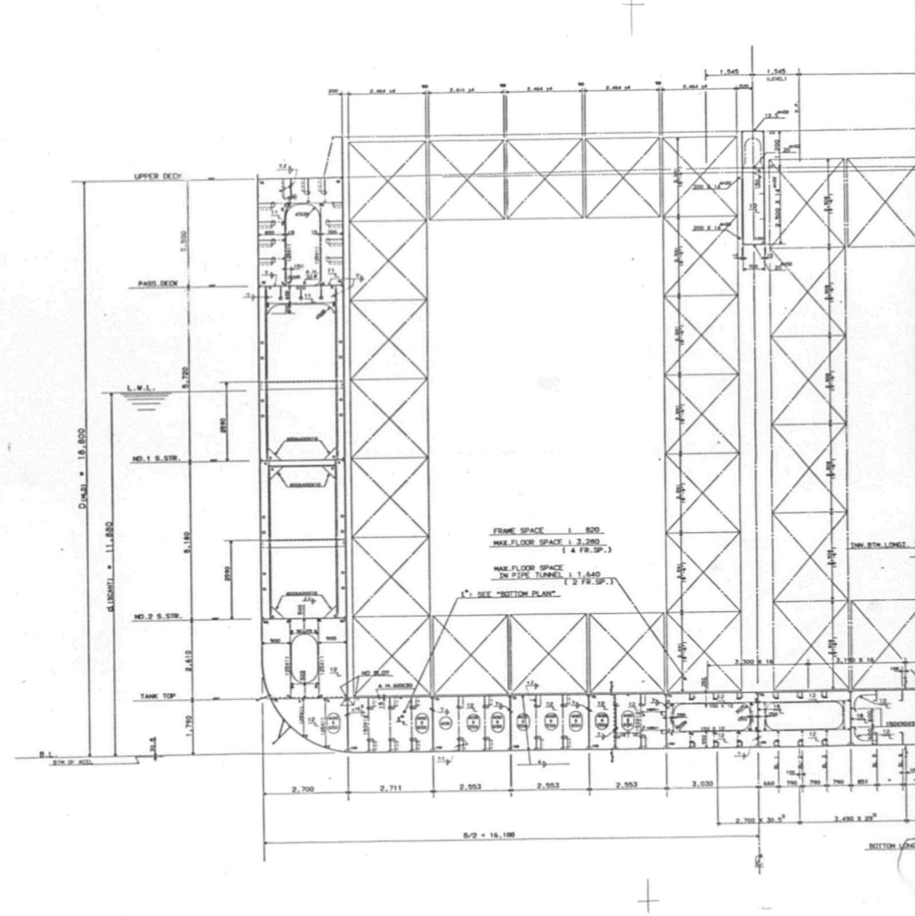
STRUCTURE DESIGN SEC.

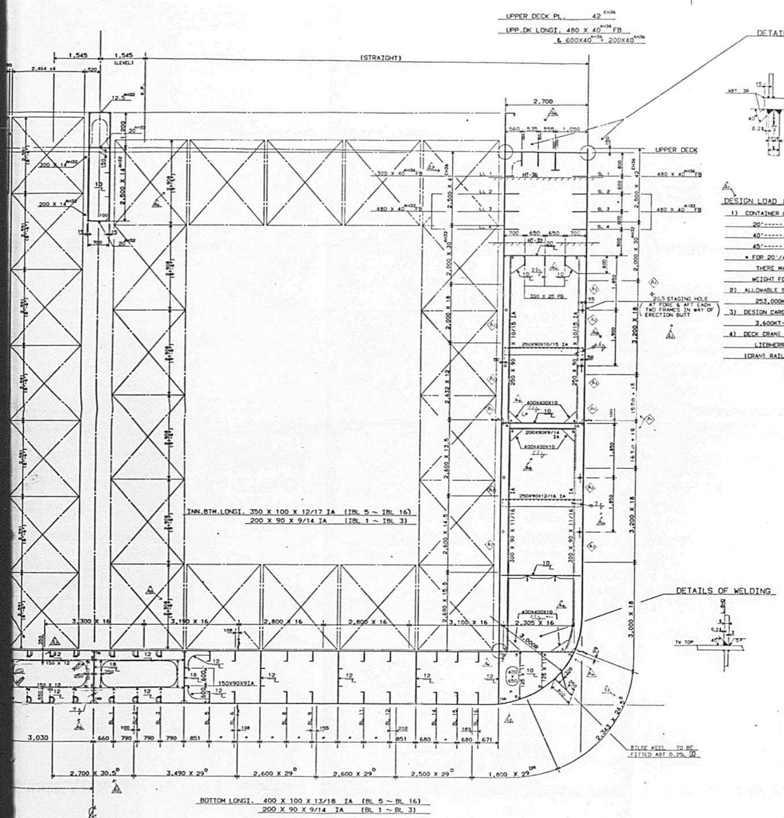
SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

中央切断図
MIDSHIP SECTION

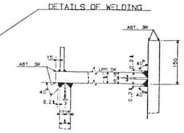
SCALE 1/50, 1/100 — LINES REF. NO. 111101 — MITSUI DRAWING NO. 2100011


HATCH SIDE COAMING
CENTER GIRDER (S.SIDE)
CENTER GIRDER (P.SIDE)
UPPER DECK PLAN
BOTTOM PLAN
PASSAGE DECK
NO.1 SIDE STRINGER
NO.2 SIDE STRINGER
BL 17 LONGI. BHD.
BL 7.10.13 SIDE GIR
BL 4 SIDE GIR (W.T.)
CENTER GIRDER
BOTTOM & INN.BTM LONGI.


UPPER DECK
PASS.DECK
L.W.L.
NO.1 S.STR.
NO.2 S.STR.
TANK TOP
B.L.
FRAME SPACE : 820
MAX.FLOOR SPACE : 3,280
(4 FR.SP.)
MAX.FLOOR SPACE
IN PIPE TUNNEL : 1,640
(2 FR.SP.)
B/2 = 16,100



DETAILS OF WELDING



DESIGN LOAD :-

1) CONTAINER LOAD
   20'----- 20LT(*)
   40'----- 30LT(*)
   45'----- 32LT
   * FOR 20'/40' & 40'/45' CONTANER BAYS.
   THERE MAY BE SOME RESTRICTIONS ON ALLOWABLE WEIGHT FOR SHORTER CONTAINER (SEE LOADIG MANUAL)
2) ALLOWABLE STILL WATER BENDING MOMENT
   253,000KT-M AT MIDSHIP
3) DESIGN CARGO TORQUE
   3,600KT-M AT MIDSHIP
4) DECK CRANE (FUTURE INSTALLATION)
   LIEBHERR MP-40
   (CRANE RAIL SKID WILL BE INSTALLED ON UPPER DECK)

CLASS :-

AMERICAN BUREAU OF SHIPPING +A1Ⓔ, +AMS AND +ACCU

PRINCIPAL DIMENSIONS :-

			M
LENGTH		P.P.	245.000
"	(SUMMER L.W.L.)		249.100
"	(97 % OF L.W.L.)	(FOR SCANTLING)	241.627
BREADTH		MLD.	32.200
DEPTH		"	18.800
DRAFT (FOR SCANTLING)		"	11.880
BLOCK COEFFICIENT (FOR SCANTLING)			0.654

MATERIALS :-

1) ALL PLATES NOT EXCEEDING 12.5 M/M IN THICKNESS TO BE OF "GRADE A RIMMED STEEL".
2) PLATES EXCEEDING 12.5 M/M IN THICKNESS TO BE OF "GRADE A SEMI-KILLED STEEL" EXCEPT SPECIALLY MARKED AS FOLLOWS.

		MINIMUM YIELD STRESS (KG/MM²)
B	--- "GRADE B" SEMI-KILLED STEEL.	
D	--- "GRADE D" SEMI-KILLED STEEL. (NORMALIZED)	
DN	--- "GRADE D" KILLED STEEL. (NORMALIZED)	
AH32	--- "GRADE A" HIGHER TENSILE STEEL.	32
AH36	--- "GRADE A" HIGHER TENSILE STEEL.	36
DH36	--- "GRADE D" " " "	"
EH36	--- "GRADE E" " " "	"

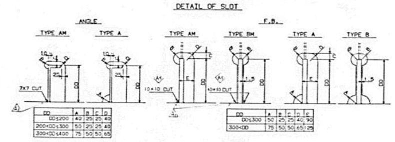
SYMBOLS :-

S	: SNIPPED END
C	: CLIPPED END
	: BUTT WELDING
	: SHIP OR ERECTION WELDING
	: MANUAL OR AUTOMATIC DOUBLE CONT. FILLET WELDING

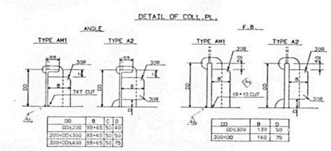
NOTE:-

1) ALL FILLET WELDINGS ARE TO HAVE A LEG LENGTH OF 5 M/M EXCEPT SPECIFIED.
2) ADDITIONAL WELDING BUTTS WILL BE PROVIDED WHERE NECESSARY FOR BUILDING CONVENIENCE.

DETAIL OF SLOT



DETAIL OF COLL. PL.



NOTE:-

TYPE A, B & A2 TO BE USED AT WHICH DRAINAGE IS NECESSARY. (TANK BTM, DUCT KEEL BTM)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR PRELIMINARY EXAMINATION BY ABS	SEP. 19. '84
A	A1	REVISED FOR OWNERS COMMENTS ON ORIGINAL DRAWING AND THE RESULTS OF DISCUSSION WITH OWNER DATED 16TH JAN '85.	FEB. 7. '85
	A2	REVISED ACCORDING TO DISCUSSION WITH ABS.	
	A3	REVISED FOR BETTER ACCESSIBILITY.	
	A4	MISCELLANEOUS REVISION.	
	A5	THICKNESS INCREASE TO COMPENSATE ACCESS OPEN.	

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.	—	FOLLOWED MES ORIGINAL PLAN.	JAN. 12 '85	
-10	—	DO. 1ST REVISED PLAN.	FEB. 12 '85	
-20	Ⓐ	SUBMITTED FOR APPOVAL OF OWNER & ABS TO PREPARED TO MODIFICATION OF MHI BUILDING SHIPS. 1. ADDED BLOCK JOINTS ON SIDE SHELL & L.BHD ABOVE NO. 1 S.STR IN WING TK AND MODIFIED SHAPE OF CORNER SLOTS. 2. DELETED AND REARRANGED STAGING HOLES. 3. MODIFIED SHAPE OF SLOTS ON FLOOR AND PROVIDED COLL. PLATES. 4. MODIFIED SHAPE OF SLOTS ON WEB IN PASSAGE WAY FROM TYPE AM WITH COLL. PL TO TYPE BM. 5. INCREASED CORNER CUT SIZE IN WAY OF SLOT TYPE AM, BM & AM1 IN RELATION TO FILLET WELD SIZE.	APR. 24 '85	
-F	—	PREPARED AS FINISHED PLAN FOR S. NO. 1158		

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER					
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	[illegible]	[illegible]				

SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
~~NO. 1323~~	~~DOCTOR LYKES~~	NO. 1158	JAMES LYKES
~~NO. 1324~~	~~ALMERIA LYKES~~	~~NO. 1159~~	~~JOSEPH LYKES~~
~~NO. 1325~~	~~TILLIE LYKES~~	~~NO. 1164~~	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.

STRUCTURE DESIGN DEPARTMENT

1st. REVISED PLAN

中央切断図

MIDSHIP SECTION

SCALE 1/50, 1/100 — LYKES REF. NO. 111101 — MITSUI DRAWING NO. 2100011-A

(SHEETS WITH COVER)

SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION

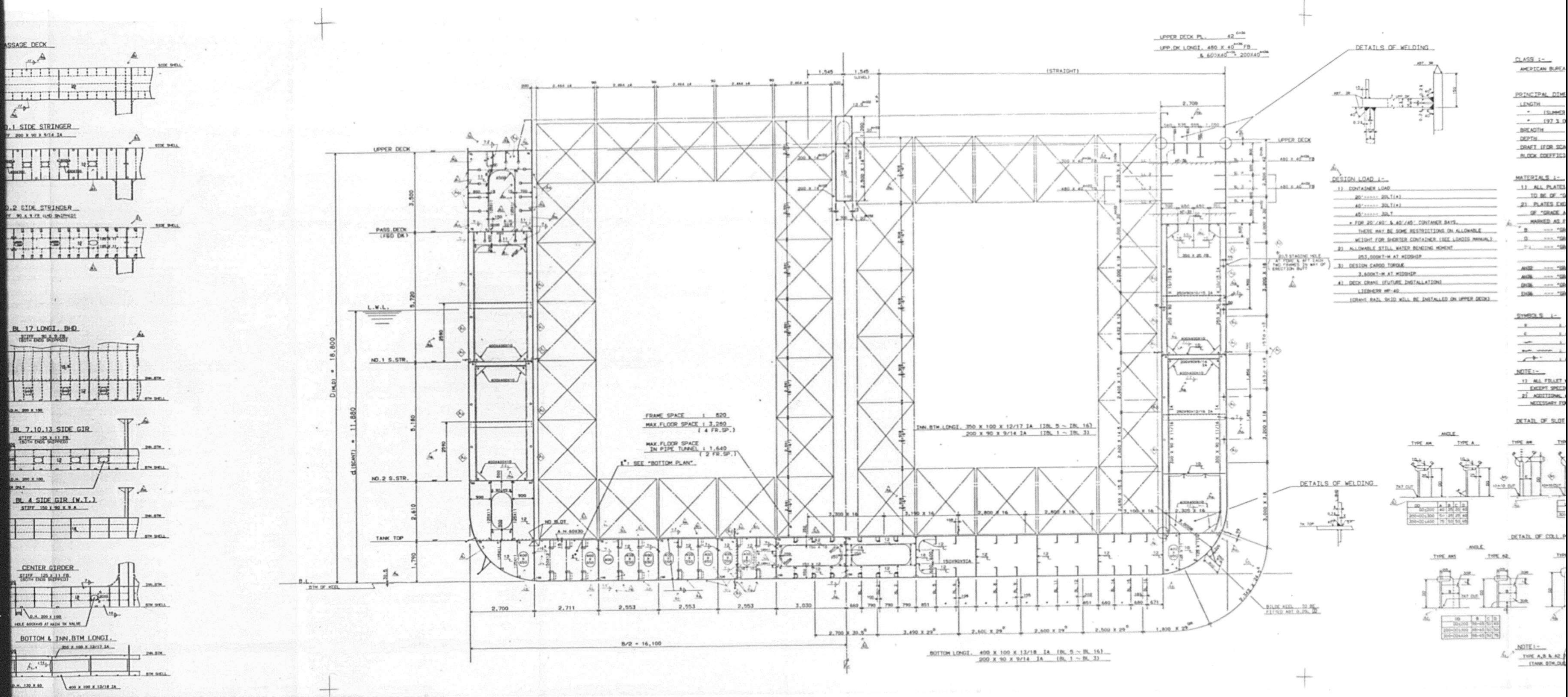
CLASS ABS

中央切断図

MIDSHIP SECTION

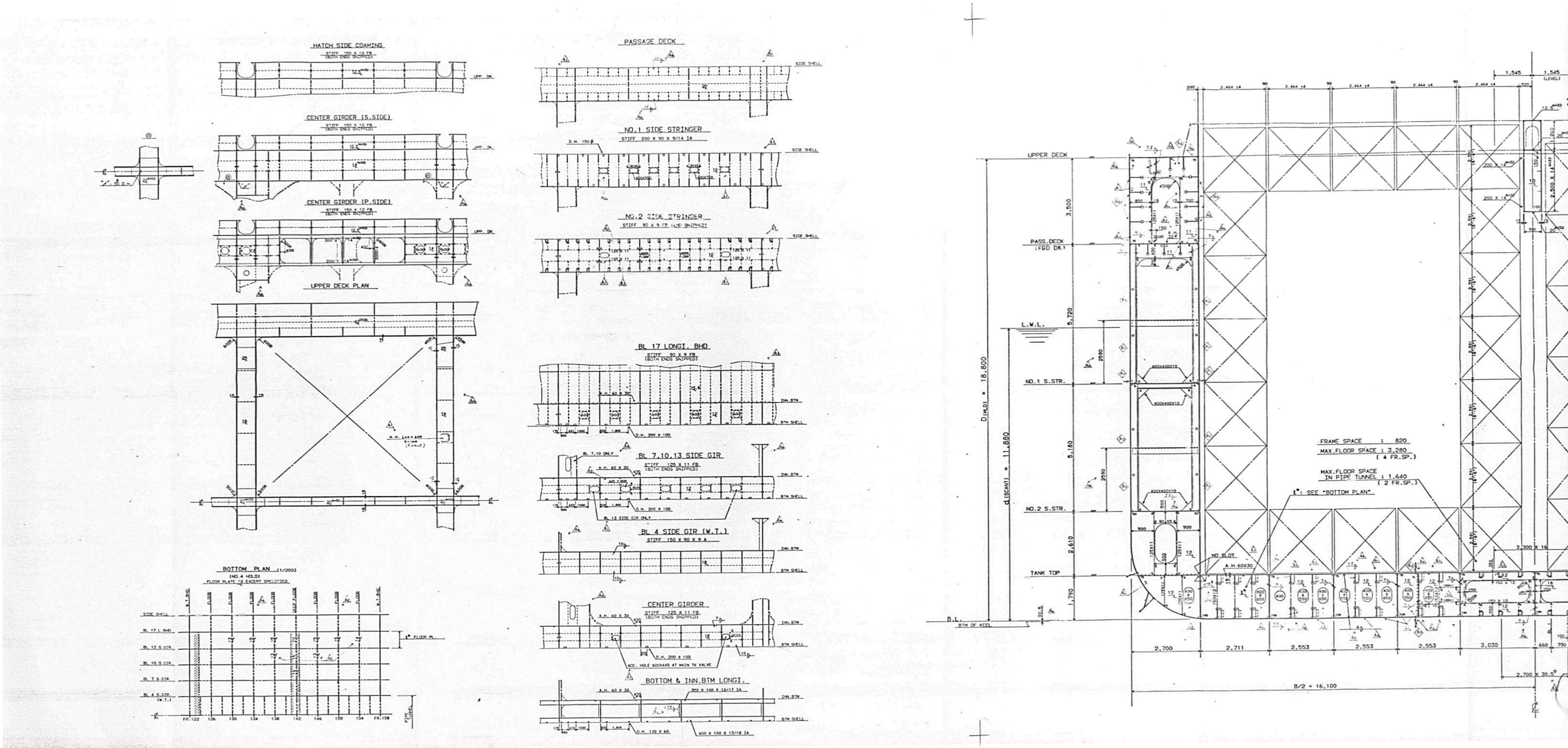
ORDER 01-15800 ~~01-15800~~ ~~01-16400~~ — DRAWING NO. HK-01100-F — LYKES REF. NO. 111101

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS



UPPER DECK
PASS.DECK (FGD DK)
L.W.L.
NO.1 S.STR.
NO.2 S.STR.
TANK TOP
B.L.
D(MLD) = 18,800
d(SCANT) = 11,880
(STRAIGHT)
DETAILS OF WELDING
DESIGN LOAD :-
FRAME SPACE : 820
MAX.FLOOR SPACE : 3,280 (4 FR.SP.)
MAX.FLOOR SPACE IN PIPE TUNNEL : 1,640 (2 FR.SP.)
INN.BTM.LONGI. 350 X 100 X 12/17 IA (IBL 5 ~ IBL 16)
200 X 90 X 9/14 IA (IBL 1 ~ IBL 3)
BOTTOM LONGI. 400 X 100 X 13/18 IA (BL 5 ~ BL 16)
200 X 90 X 9/14 IA (BL 1 ~ BL 3)
B/2 = 16,100
NO.1 SIDE STRINGER
NO.2 SIDE STRINGER
BL 17 LONGI. BHD
BL 7,10,13 SIDE GIR
BL 4 SIDE GIR (W.T.)
CENTER GIRDER
BOTTOM & INN.BTM LONGI.
CLASS :-
MATERIALS :-
SYMBOLS :-
NOTE:-

2/3 345



HATCH SIDE COAMING
CENTER GIRDER (S.SIDE)
CENTER GIRDER (P.SIDE)
UPPER DECK PLAN
BOTTOM PLAN
PASSAGE DECK
NO.1 SIDE STRINGER
NO.2 SIDE STRINGER
BL 17 LONGI. BHD
BL 7,10,13 SIDE GIR
BL 4 SIDE GIR (W.T.)
CENTER GIRDER
BOTTOM & INN.BTM LONGI.
UPPER DECK
PASS.DECK
L.W.L.
NO.1 S.STR.
NO.2 S.STR.
TANK TOP
FRAME SPACE : 820
MAX.FLOOR SPACE : 3,280
(4 FR.SP.)
MAX.FLOOR SPACE IN PIPE TUNNEL : 1,640
(2 FR.SP.)
B/2 = 16,100

3/3 346

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	[illegible] '85	OFTS-MES-559			13AUG'85	T-8-2		
PARTLY REVISED PLAN NO.1	July 17 '85	TAM/19			17SEP'85	T-8-2		
PARTLY REVISED PLAN NO.2	July 17 '85	TAM/19			17SEP'85	T-8-2		
3RD PART REV	23SEP'85	TAM/75			15OCT'85	T-8-2		
4TH PART REV	14NOV'85	TAM/124			13NOV'85	T-8-2		
5TH PART REV	26NOV'85	TAM/128			18DEC'85	T-8-2		
6TH PART REV	12MAR'86	TAM/162			26MAR'86	T-8-2		

協議

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC. CHIEF
STAFF
(TEL 2270)

SHIP'S NO. 1325
SHIP'S NAME TILLIE LYKES

前部機械室構造（上部）
FOR'D MACH. SPACE CONST. (UPP.)

JOB NO. TS1323/24/25
SCALE 1/100
LYKES REF. NO. 111301
MITSUI DRAWING NO. 2103102 R

(19 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 FINISHED PLAN, CHANGED AS FOLLOWS.	
		△ MISCELLANEOUS REVISION.	NOV. 28. '86
		MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	

DWG. NO. 2103102-1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

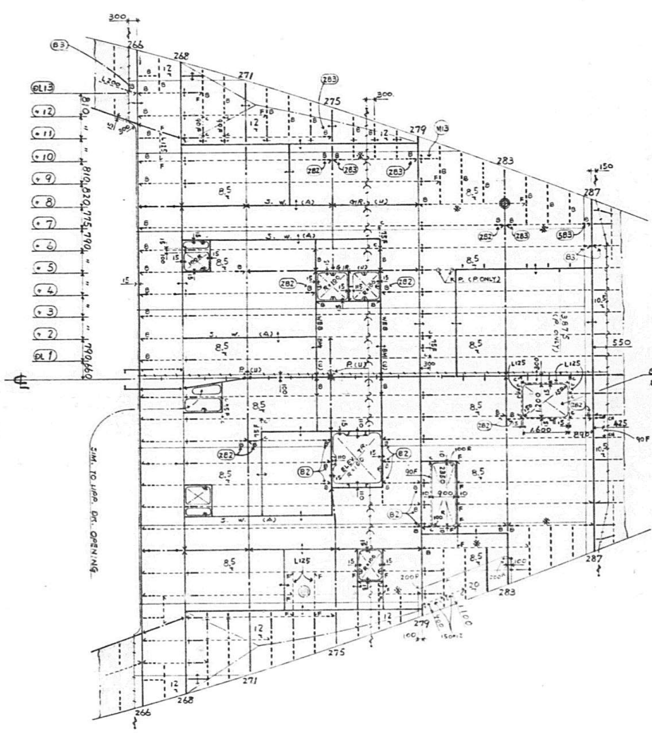
備考：-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番2100811）」を参照のこと。
4. 脚接脚長については，特記の他は「脚接脚長表（図番2100832）」を参照のこと。

348

SECOND DK. PLAN

15,300 ABOVE B. L.



FR. SP. 820 — 770 — 700

DK. LONGL (DL1) ~ (DL10) L 125 × 75 × 7

DK. LONGL (DL11) ~ (DL13) & ※MARK ONLY L 200 × 90 × 9/14

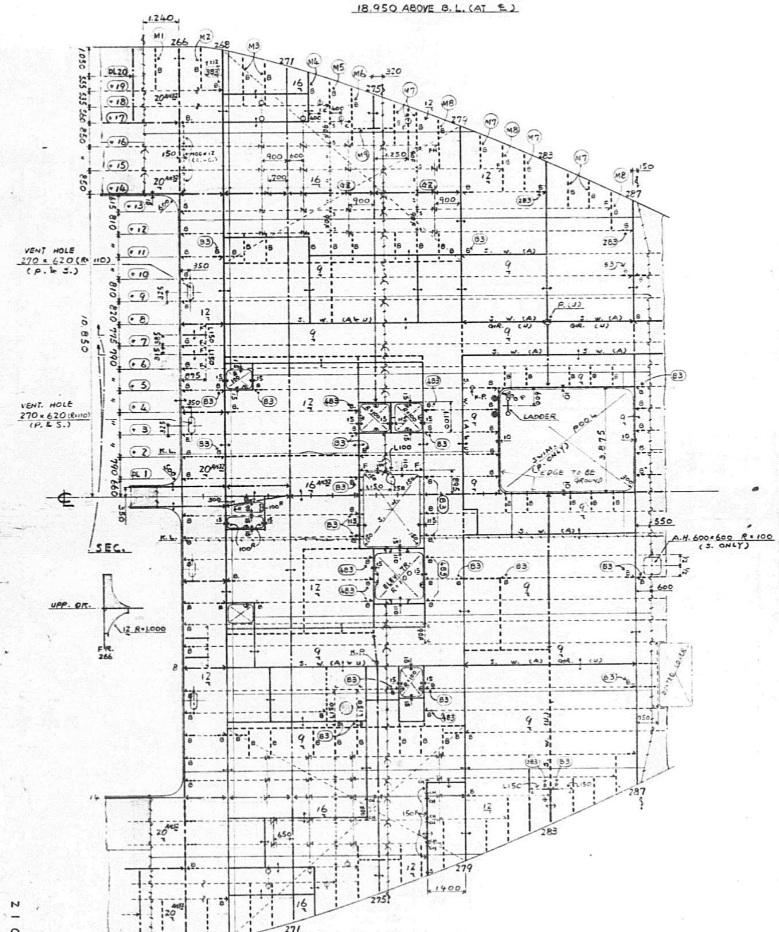
DK GIR. & WEB BM. WEB 650 × 8, F.PL. 150 × 12 (T)

2103102-4/

SECOND DK. PLAN

UPPER DECK PLAN

18,950 ABOVE B. L. (AT ℄)



FRAME SPACE 820 — 770 — 700

(DL18) ~ (DL19) 400×30 ^AH36^ F.B. (DL17) ~ (DL19) 300×25 ^AH36^ F.B.

(DL15) & (DL16) L 200 × 90 × 9/14

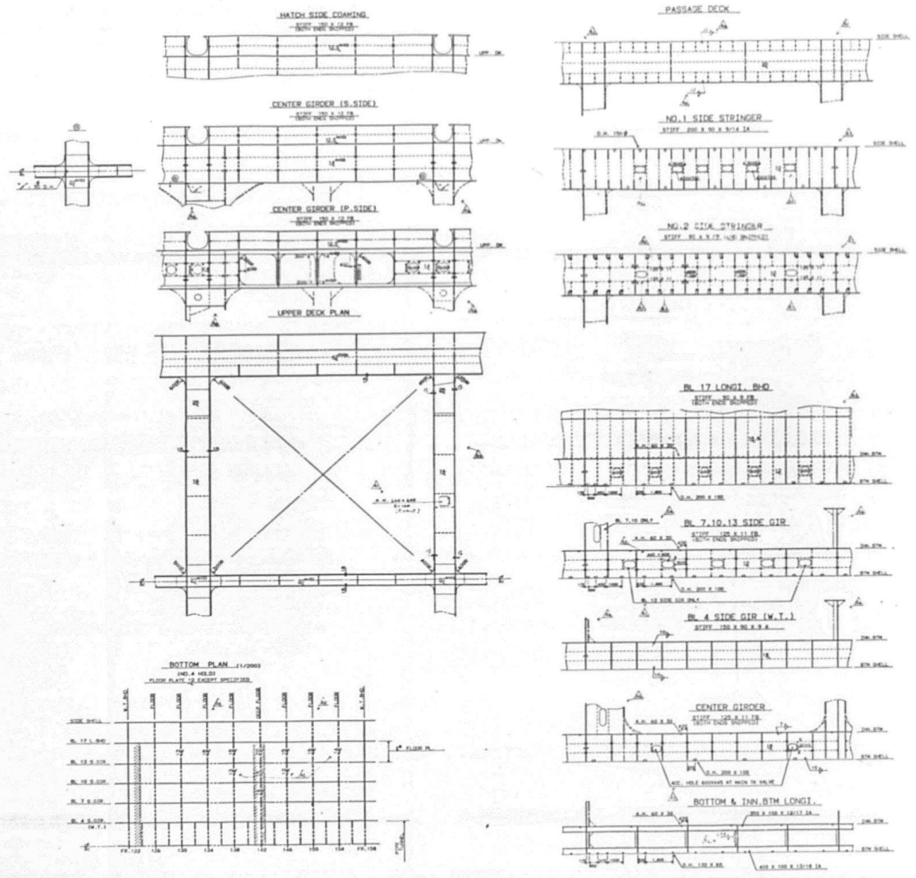
DK. LONGL (DL1) ~ (DL5), (DL8) & (DL6) ONLY L 125 × 75 × 7

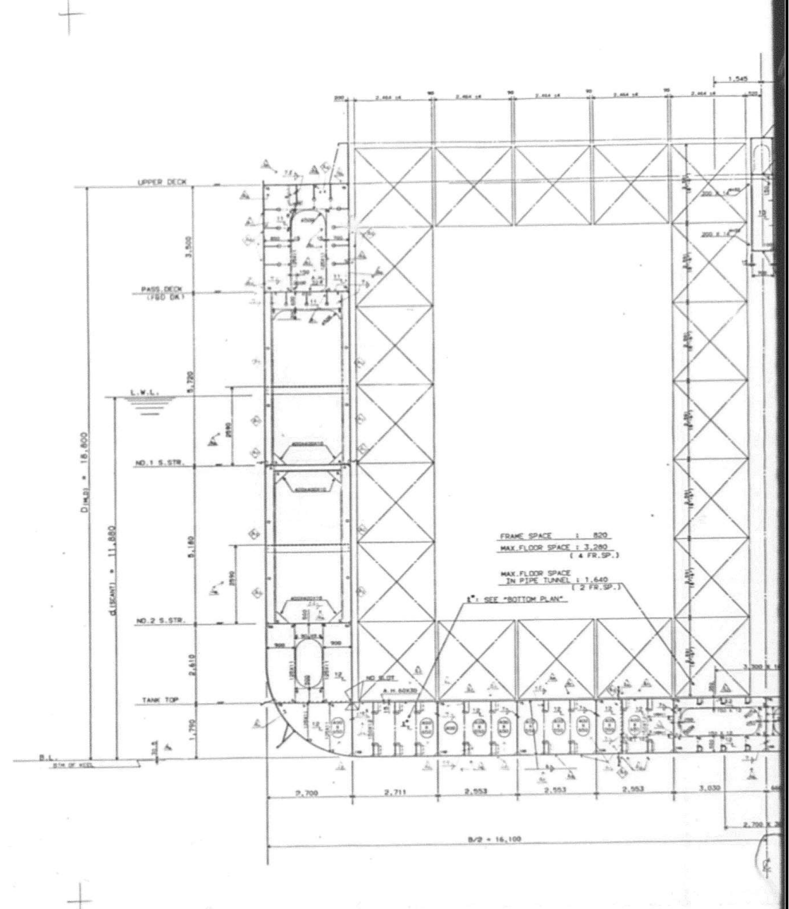
DECK LONGL L 150 × 90 × 9 EXCEPT SPECIFIED

DECK GIR. ---- WEB 580 × 8, F.PL. 150 × 12 (T) EXCEPT SPECIFIED

2103102-3/

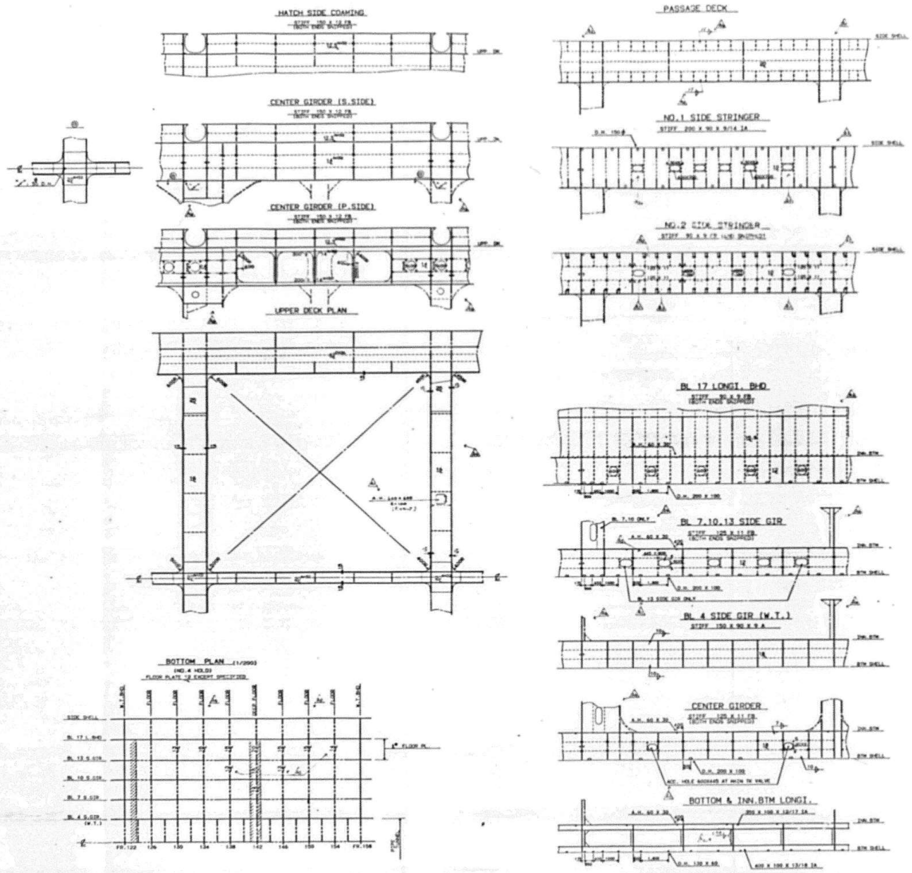
UPP. DK. PLAN

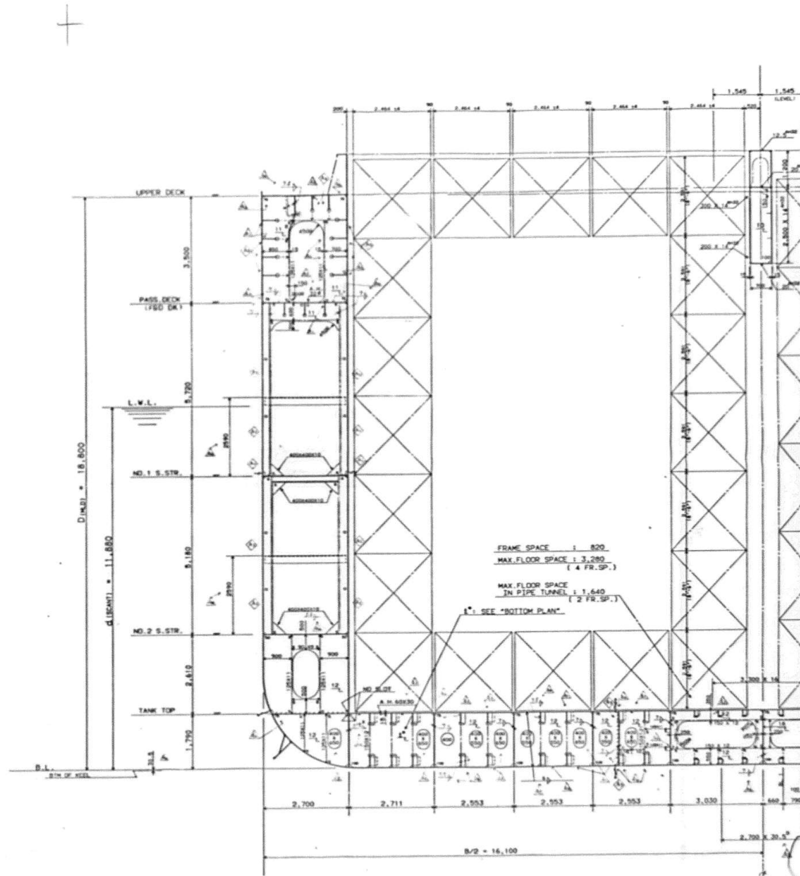

HATCH SIDE COAMING
CENTER GIRDER (S.SIDE)
CENTER GIRDER (P.SIDE)
UPPER DECK PLAN
BOTTOM PLAN (1/200)
PASSAGE DECK
NO.1 SIDE STRINGER
NO.2 SIDE STRINGER
BL 17 LONGI. BHD
BL 7,10,13 SIDE GIR.
BL 4 SIDE GIR (W.T.)
CENTER GIRDER
BOTTOM & INN.BTM LONGI.


UPPER DECK
PASS.DECK
L.W.L.
NO.1 S.STR.
NO.2 S.STR.
TANK TOP
B.L.
D(MLD) = 18,800
FRAME SPACE : 820
MAX.FLOOR SPACE : 3,280
(4 FR.SP.)
MAX.FLOOR SPACE IN PIPE TUNNEL : 1,640
(2 FR.SP.)
B/2 = 16,100

ATTENTION!

FILM NO. 349 (JUST BEFORE) IS WRONG.


HATCH SIDE COAMING
CENTER GIRDER (S.SIDE)
CENTER GIRDER (P.SIDE)
UPPER DECK PLAN
BOTTOM PLAN
PASSAGE DECK
NO.1 SIDE STRINGER
NO.2 SIDE STRINGER
BL 17 LONGI. BHD
BL 7.10.13 SIDE GIR
BL 4 SIDE GIR (W.T.)
CENTER GIRDER
BOTTOM & INN.BTM LONGI.


UPPER DECK
PASS.DECK
L.W.L.
NO.1 S.STR.
NO.2 S.STR.
TANK TOP
B.L.
D(MLD) = 18,800
FRAME SPACE : 820
MAX.FLOOR SPACE : 3,280
(4 FR.SP.)
MAX.FLOOR SPACE
IN PIPE TUNNEL : 1,640
(2 FR.SP.)
2,700
2,711
2,553
2,553
2,553
3,030
B/2 = 16,100

3/3 346

ALT.NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	[illegible]	[illegible]			18AUG'86	T-8-2		
PARTLY REVISED PLAN NO.1	July 17 '85	TAM/19			17SEP'86	T-8-2		
PARTLY REVISED PLAN NO.2	July 17 '85	TAM/19			17SEP'86	T-8-2		
3RD PART REV	23SEP'86	TAM/75			15OCT'86	T-8-2		
4TH PART REV	14NOV'86	TAM/124			19NOV'86	T-8-2		
5TH PART REV	26NOV'86	TAM/128			18DEC'86	T-8-2		
6TH PART REV	12MAR'87	TAM/162			26MAR'87	T-8-2		

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC.CHIEF
STAFF
DATE (TEL 2330)

SHIP'S NO. 1325
SHIP'S NAME TILLIE LYKES

前部機械室構造（上部）
FOR'D MACH. SPACE CONST. (UPP.)

JOB NO. TS1323/24/25
JOBCLASSIF.NO.
SCALE 1/100
LYKES REF. NO. 111301
MITSUI DRAWING NO. 2103102
R

(19 SHEETS WITH COVER)

PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 FINISHED PLAN, CHANGED AS FOLLOWS.	
		△ MISCELLANEOUS REVISION.	NOV.28.'86
		MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	

DWG.NO. 2103102-1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

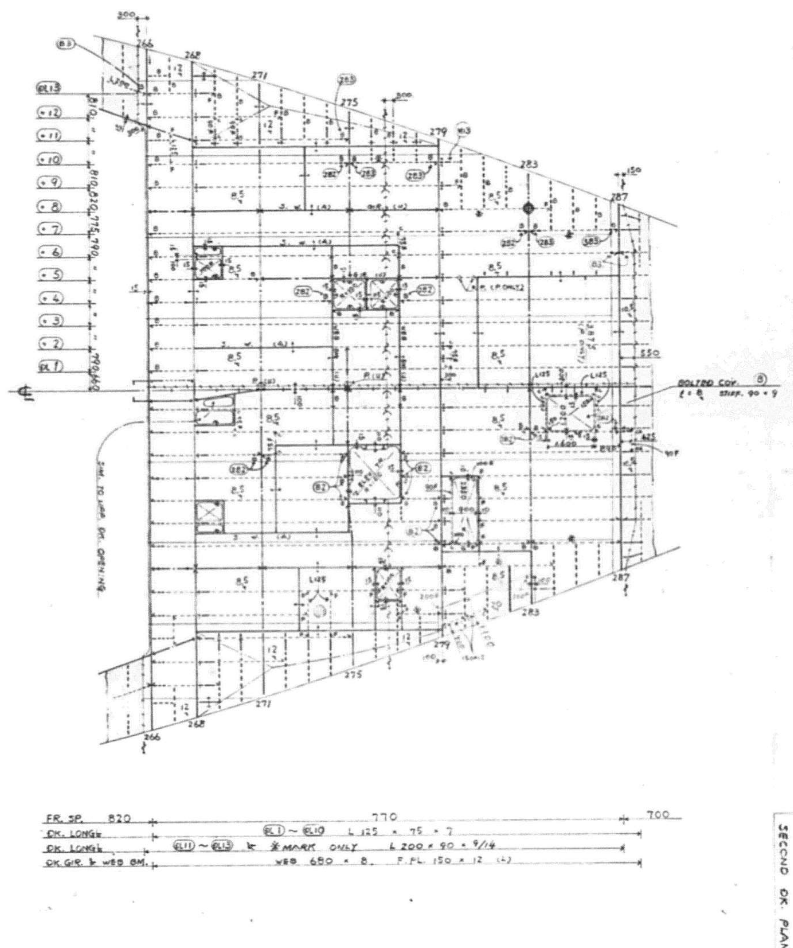
備考：-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は "構造詳細図（図番2100811）" を参照のこと。
4. 溶接脚長については，特記の他は "溶接脚長表（図番2100832）" を参照のこと。

348

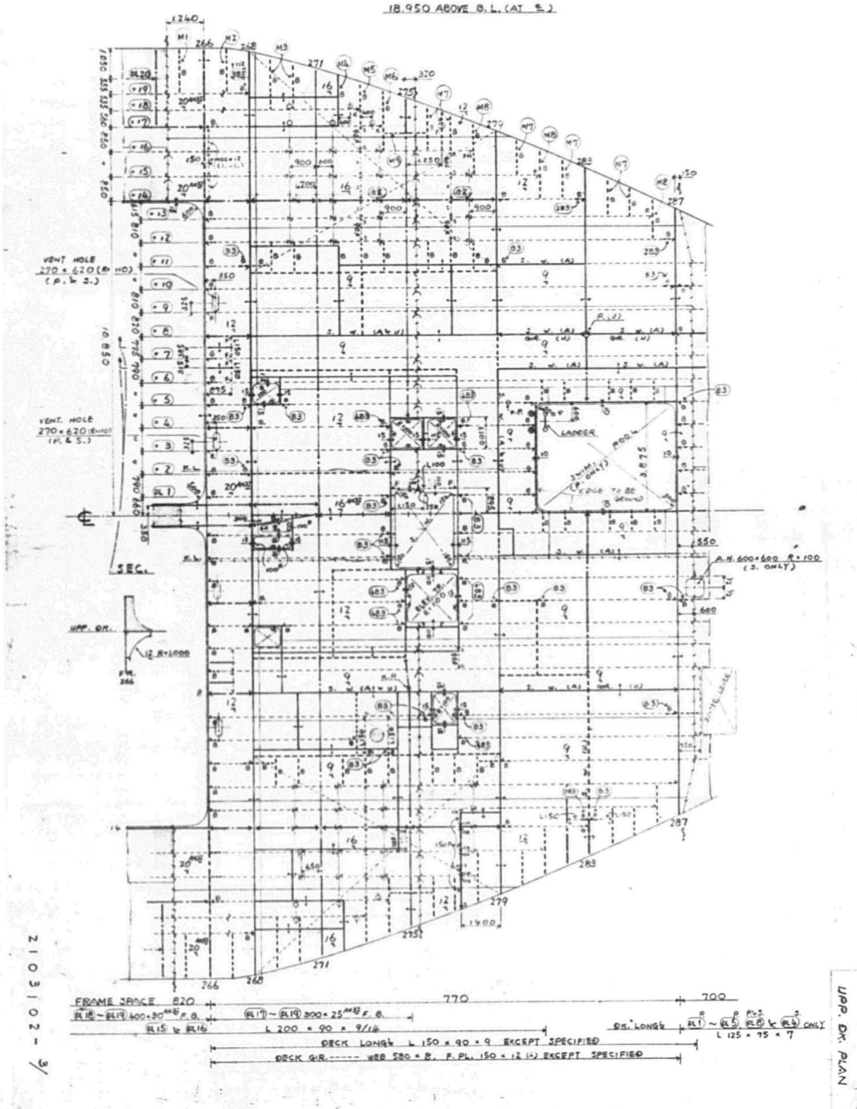
SECOND DK. PLAN

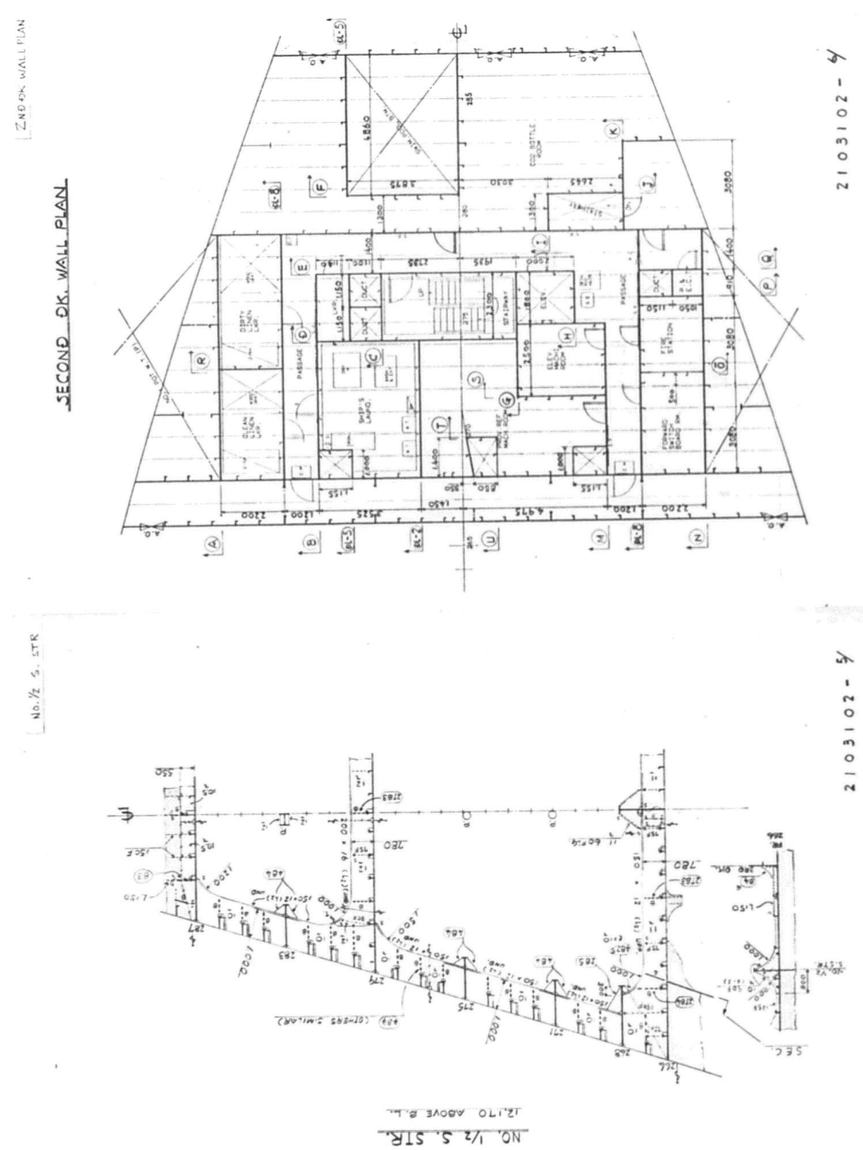
15,300 ABOVE B. L.

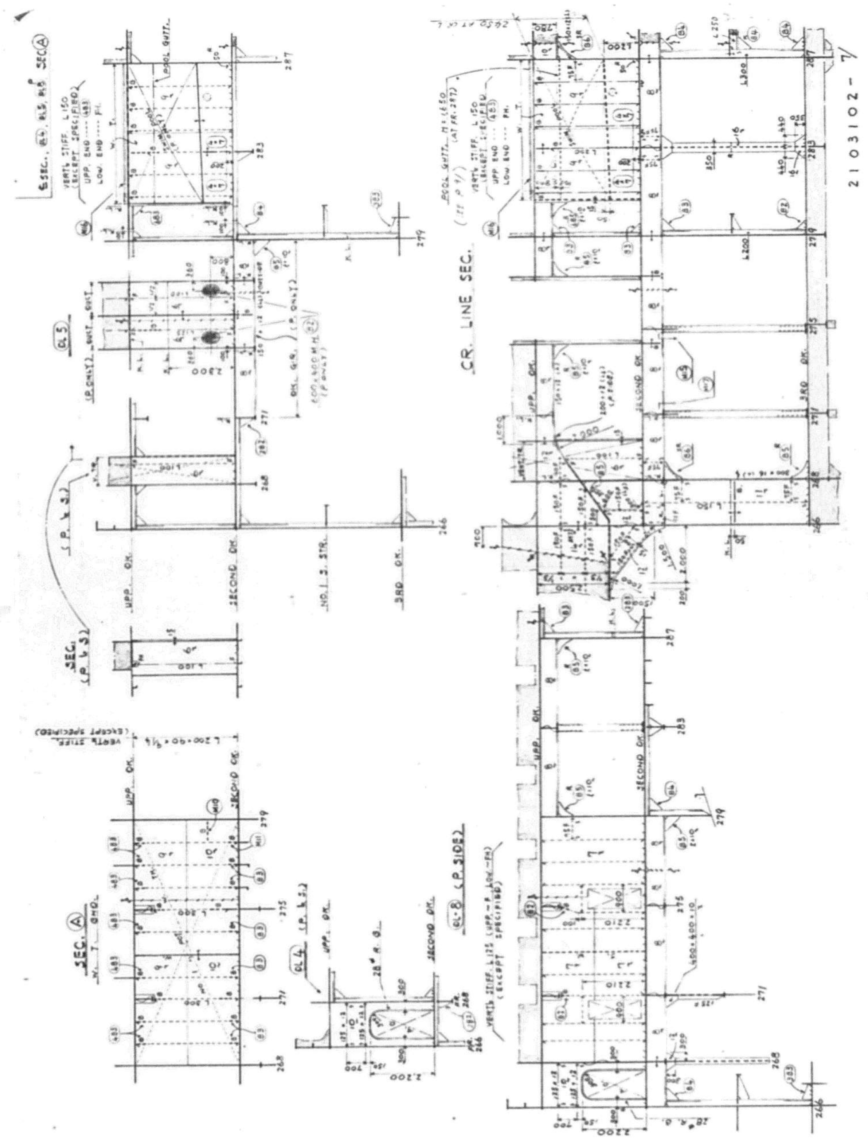


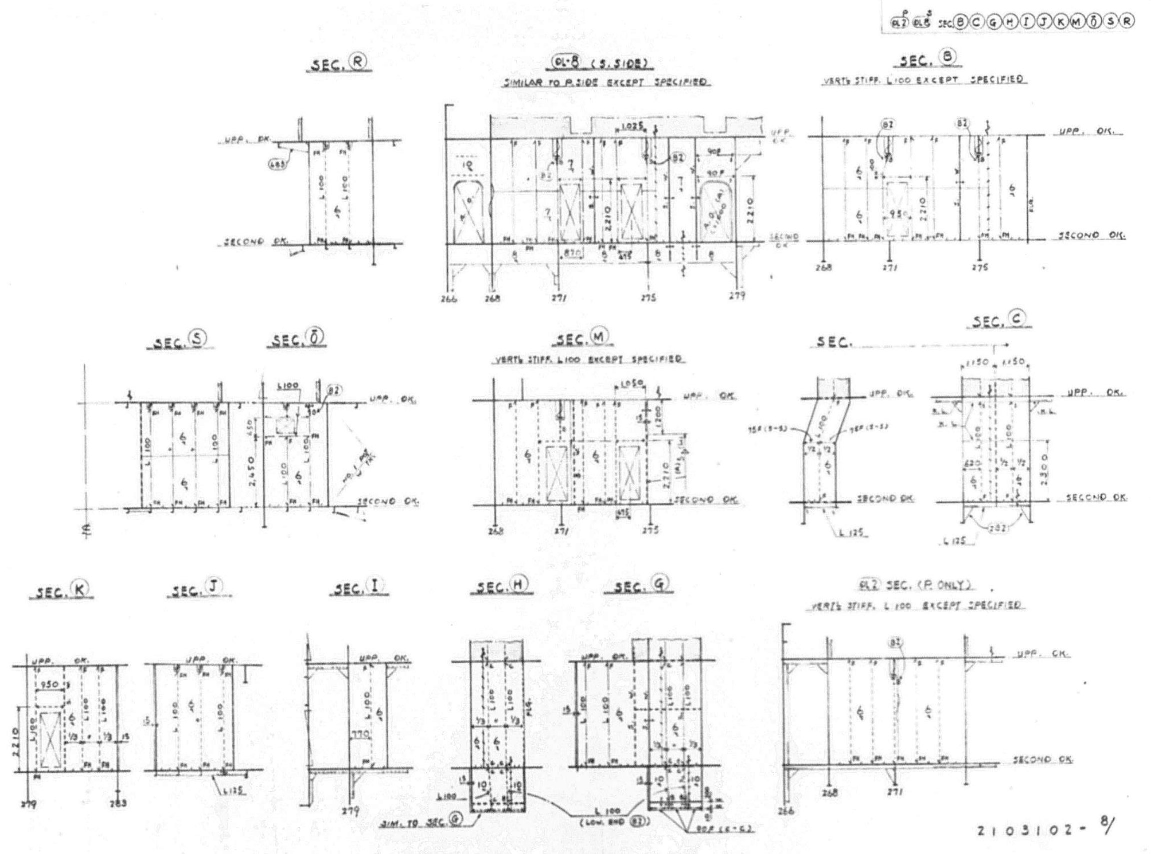
UPPER DECK PLAN

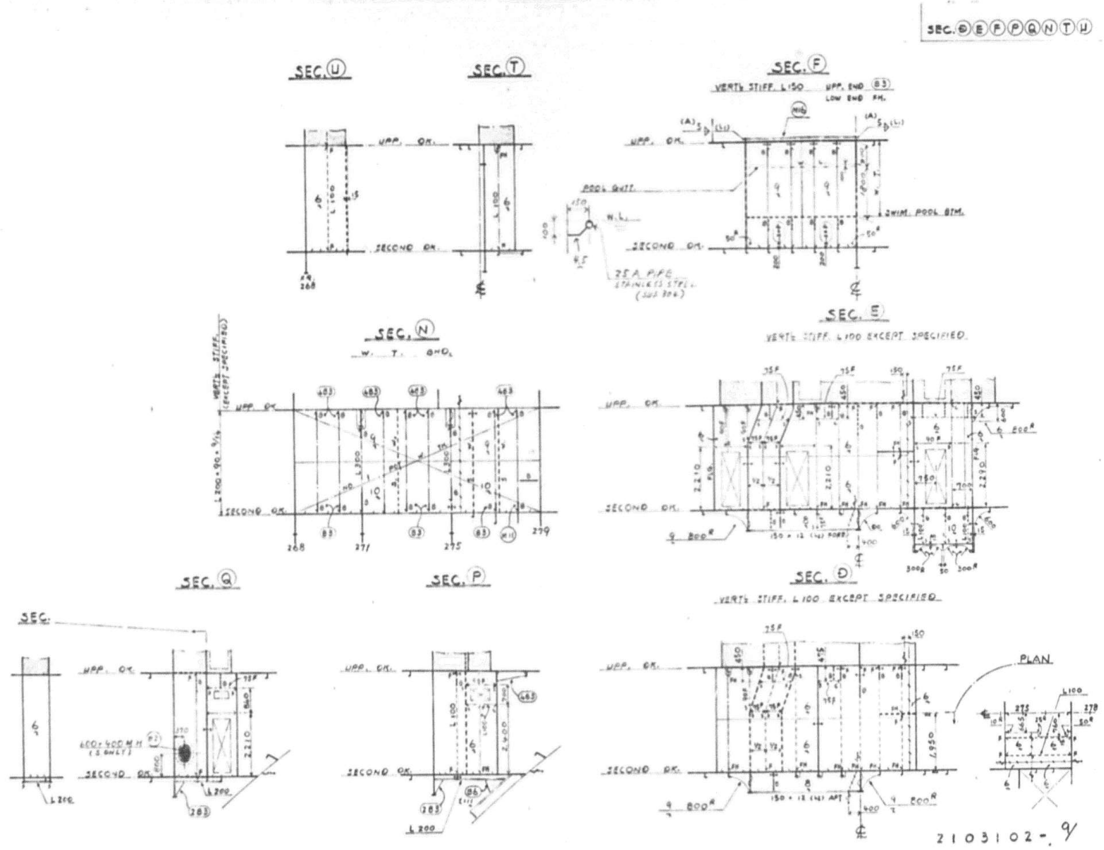
18,950 ABOVE B.L. (AT ℄)

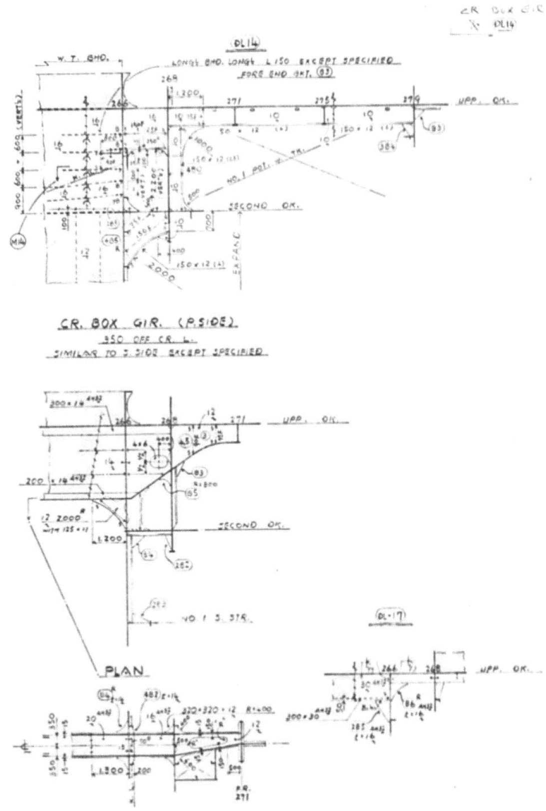



SECOND DK. WALL PLAN
2103102-4
NO. 1/2 S. STR.
12,170 ABOVE B.L.
2103102-5

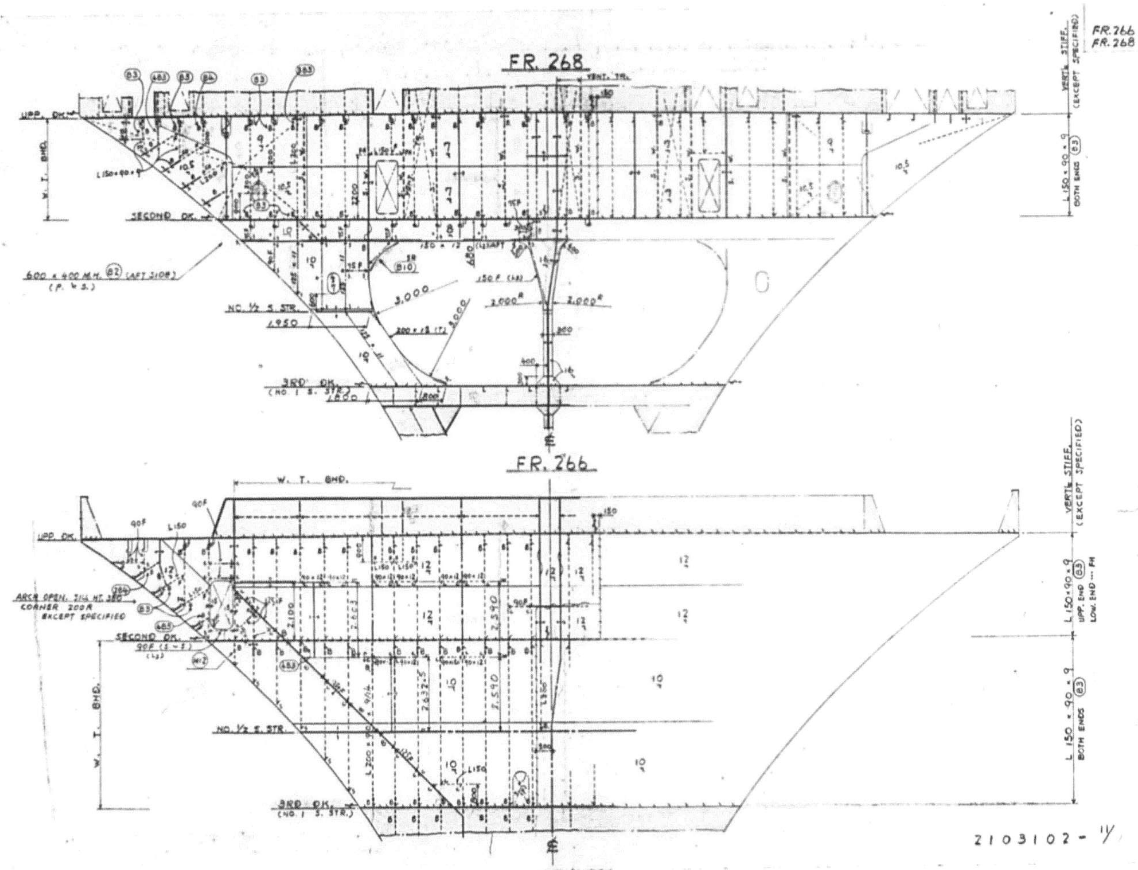

CR. LINE SEC.
SEC. A
2103102-7


SEC. R
OL-8 (S. SIDE)
SIMILAR TO P. SIDE EXCEPT SPECIFIED
SEC. B
VERT'L STIFF. L100 EXCEPT SPECIFIED
SEC. S
SEC. M
VERT'L STIFF. L100 EXCEPT SPECIFIED
SEC.
SEC. C
SEC. K
SEC. J
SEC. I
SEC. H
SEC. G
SIMI. TO SEC. G
L100 (LOW. END B2)
SEC. (P. ONLY)
VERT'L STIFF. L100 EXCEPT SPECIFIED
UPP. DK.
SECOND DK.
2103102- 8/


SEC. D E F P Q N T U
SEC. U
SEC. T
SEC. F
VERT'L STIFF. L150 UPP. END B3 LOW END FH.
POOL GUTT.
SWIM. POOL BTM.
25 A PIPE STAINLESS STEEL (SUS 304)
SEC. N
W. T. BHD.
VERT'L STIFF. (EXCEPT SPECIFIED)
SEC. E
VERT'L STIFF. L100 EXCEPT SPECIFIED
SEC. Q
SEC.
600×400 M.H (S. ONLY)
SEC. P
SEC. D
VERT'L STIFF. L100 EXCEPT SPECIFIED
PLAN
UPP. DK.
SECOND DK.
2103102- 9/

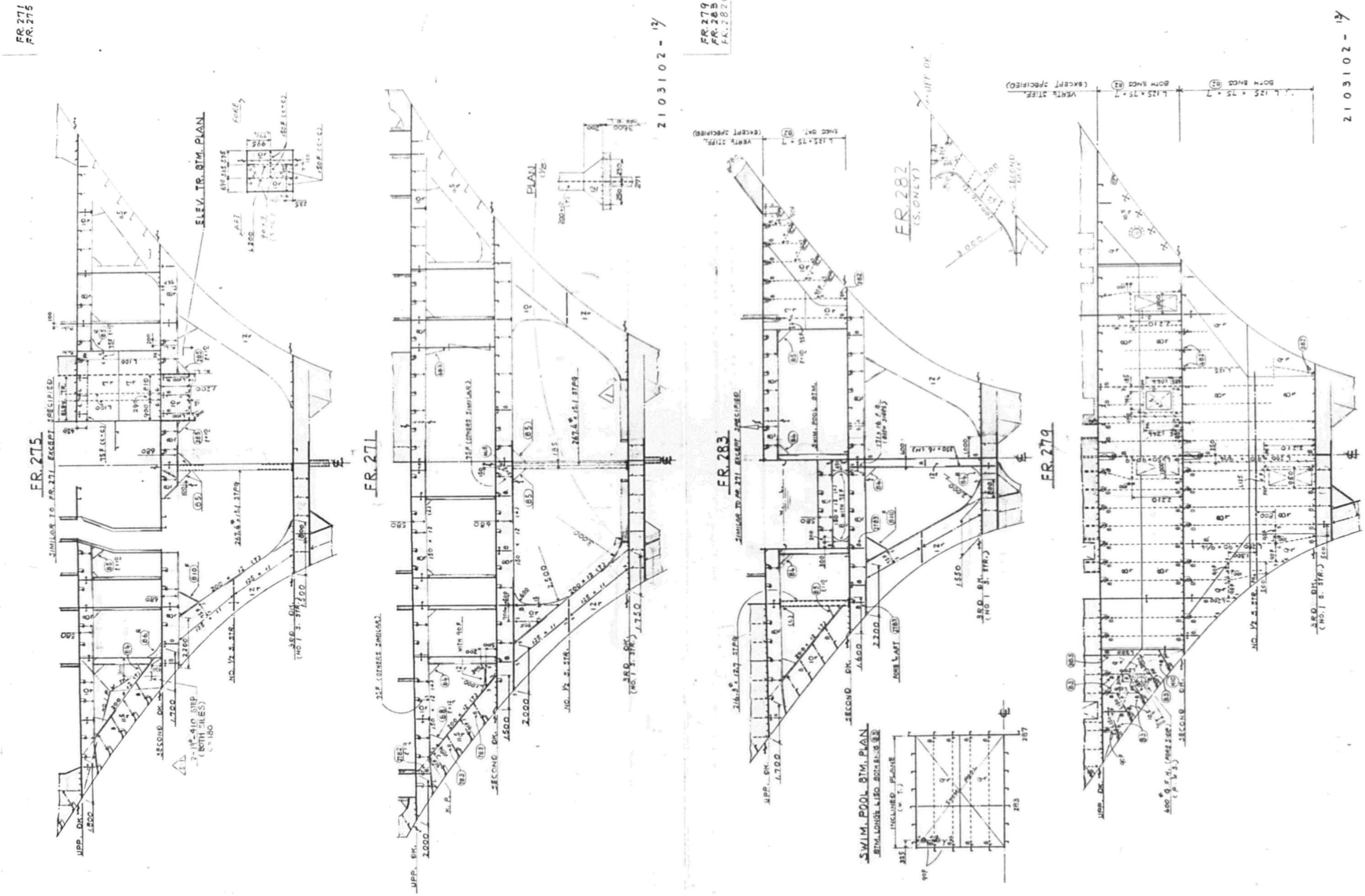


2103102-19

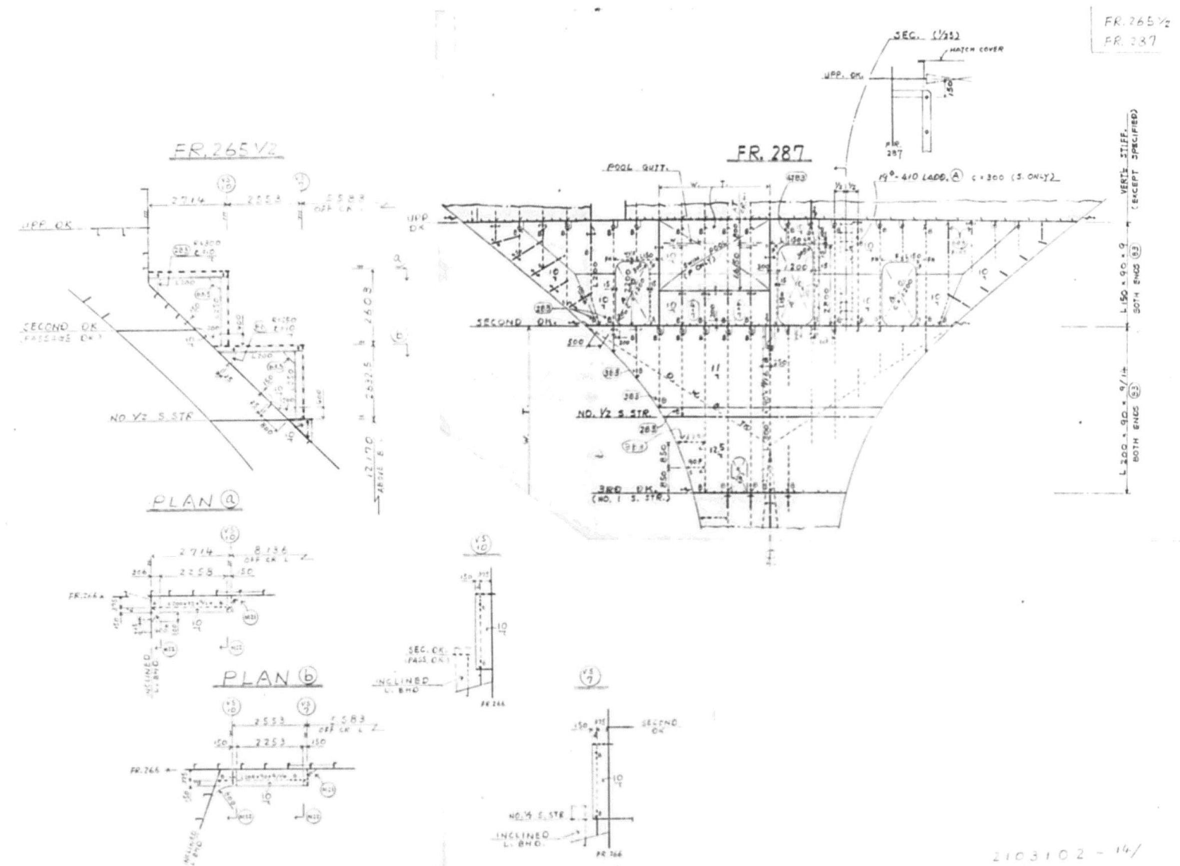


2103102-14

351

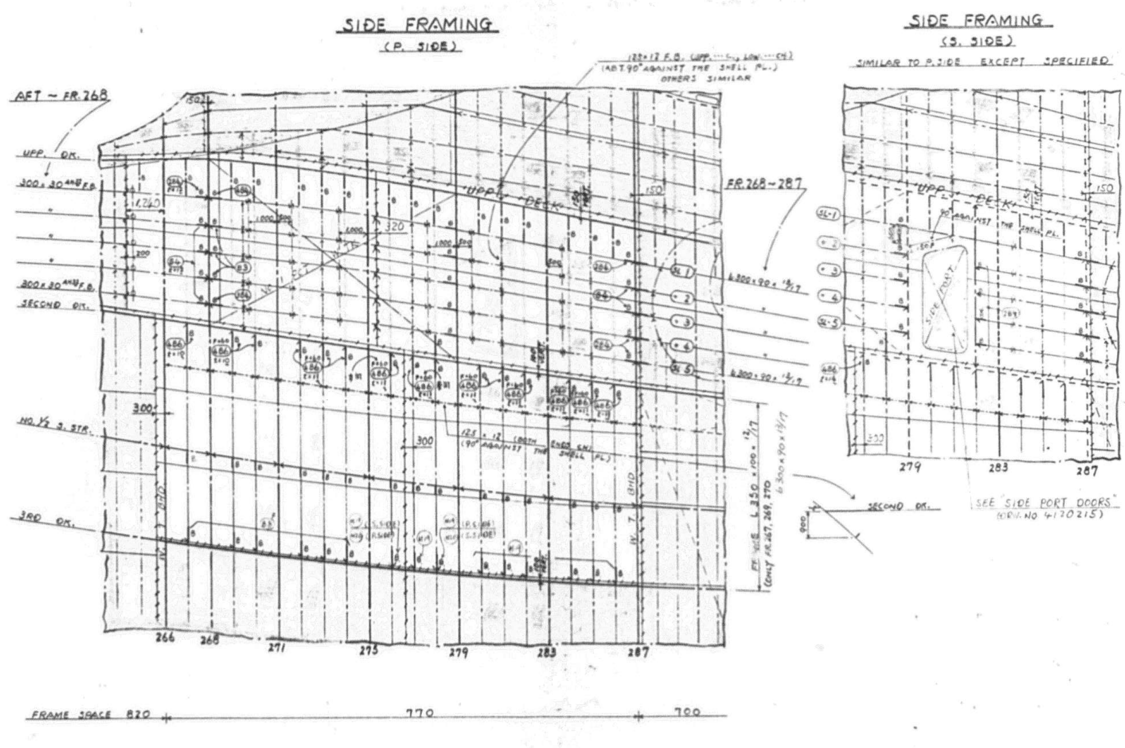

FR. 275
FR. 271
FR. 283
FR. 279
FR. 282 (S. ONLY)
ELEV. TR. BTM. PLAN
SWIM. POOL BTM. PLAN
2103102-12/
2103102-13/

352



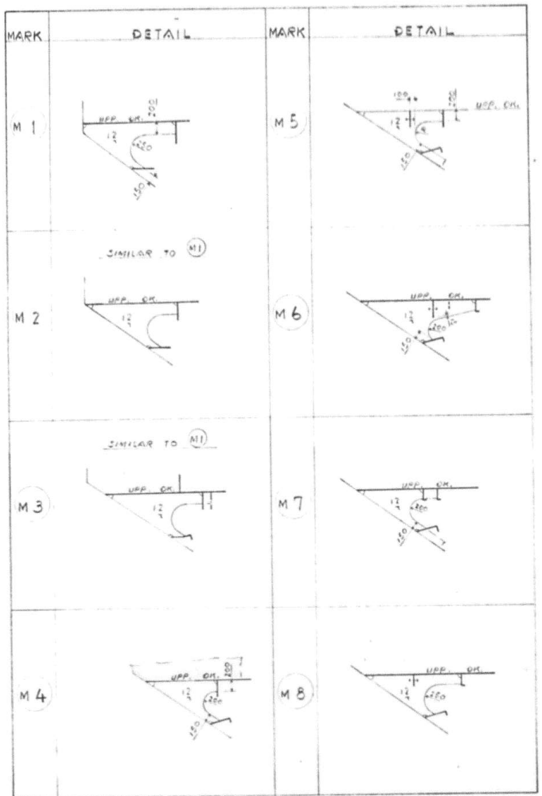
2103102 - 14/

SIDE FRAMING

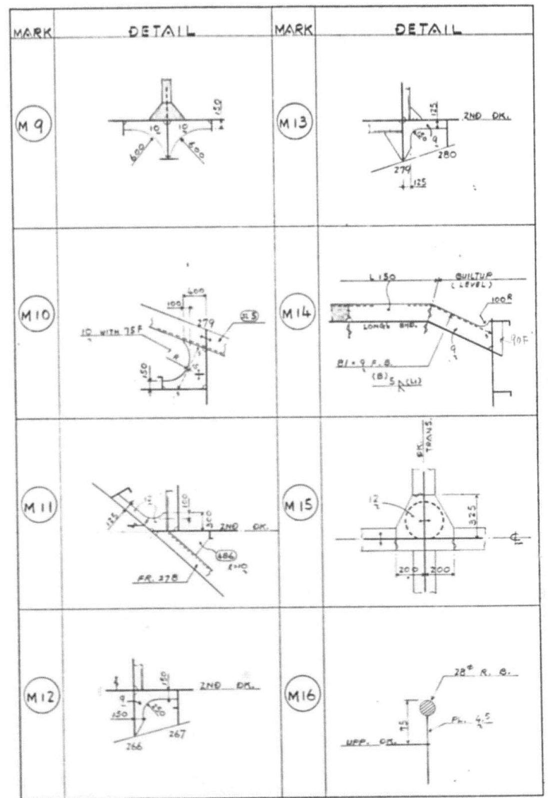


2103102 - 15/

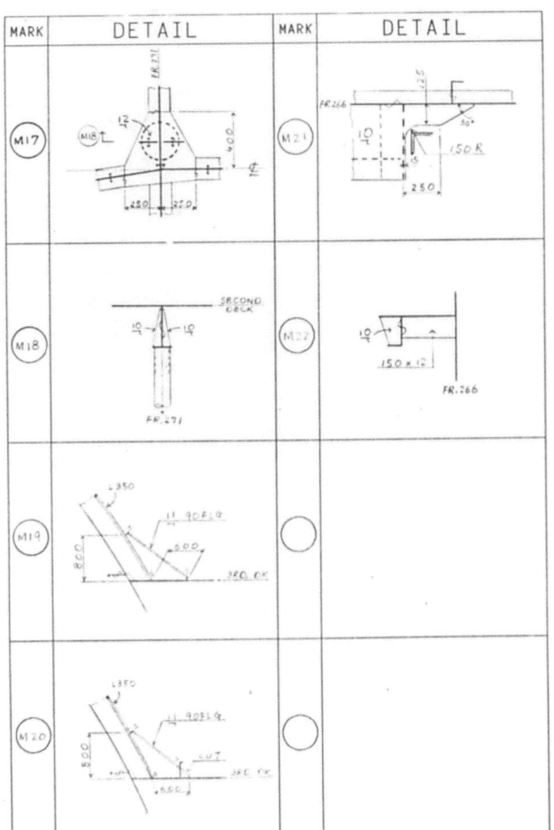
353



2103102 - 16/



2103102 - 17/



2103102 - 18/18

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN	MAY 16 '85	
-01		FOLLOWED MES PARTLY REVISED PLAN NO.1 & NO.2	JUL. 22. 85	
-10	⟨A⟩	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. REARRANGE BLOCK BUTT JOINTS ON CENTER LINE BOX GIRDER. 2. DELETED SEAM AND BUTT JOINTS ON W.T. BHD OR STEEL WALL. 3. REARRANGED SEAM AND BUTT JOINTS ON W.T. BHD OR STELL WALL. BASED DWG. MES DWG NO. 2103102 (INCL. PARTLY REVISED PLAN NO.1 & 2)	AUG. 28, '85	
-11		FOLLOWED MES PARTLY REVISED PLAN NO. 3	SEP. 6, '85	
-12		Do. No. 4	OCT. 4. '85	
-13	⟨B⟩	DELETED BLOCK BUTT JOINT ON C.L. SEC. (P.SIDE).	OCT. 31. '85	
-14		FOLLOWED MES PARTLY REVISED PLAN NO. 5	NOV. 14. '85	
—	—	DELETED MHI PARTLY REVISED PLAN NO. -13. REFER TO MHI TLX NO. LL-126 DATED NOV. 25. '85	NOV. 25 '85	
-15	⟨C⟩	MODIFIED LOWER END OF PILLAR AT FR.283 FOR IMPROVE ACCESS DUE TO OWNER'S REQUIREMENT.	FEB. 7 '86	
-16		FOLLOWED MES PARTLY REVISED PLAN NO. 6.	MAR. 10. '86	
-F	—	PREPARED AS FINISHED PLAN FOR S. No 1158	MAR. 11 '87	

20 SHEETS WITH COVER

CONFERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION		
	APPROVED S. Hirayama / K. Kobayashi	CLASS ABS	
	CHECKED S. Furuhashi	前部機械室構造(上部) FOR'D MACH. SPACE CONST. (UPP.)	
	DRAWN		
	SCALE		
	ORDER 01-15800	DRAWING NO. HS-45410-F	LYKES REF. NO. 111301

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	June 14 '85	OFTS-MES-559						
PARTLY REVISED PLAN NO.1	July 17 '85	TAM /19						
PARTLY REVISED PLAN NO.2	July 17 '85	TAM /19						

SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
~~NO.1323~~	~~DOCTOR LYKES~~	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	~~NO.1159~~	~~JOSEPH LYKES~~
NO.1325	~~TILLIE LYKES~~	~~NO.1164~~	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER	SHIP'S NO.	SHIP'S NAME
STRUCTURE DESIGN SEC. SEC.CHIEF		
ASSIST.CHIEF / CHARGE ENG'R. T. Hayashi	前部機械室構造(上部) FOR'D MACH. SPACE CONST. (UPP.)	PARTLY REVISED PLAN NO. 6
STAFF H. Miyoshi		
DATE (TEL 2370)		
JOB NO. TS1323/24/25 / JOBCLASSIF. NO.	SCALE 1/100	LYKES REF. NO. 111301 / MITSUI DRAWING NO. 2103102-6

(3 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS	APR. 25 '85
1	△1	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	JUL. 1 '85 M.O.
	△1	OWNERS REQ. (LTR NO OFTS-MES-559 DATED 14TH JUN '85)	
2	△2	OWNERS REQ. (LTR NO OFTS-MES-559 DATED 14TH JUN '85 & MES TLX NO 1435 DATED JUL 5 '85)	JUL. 9 '85 M.O.
3	△3	MISCELLANEOUS REVISION	AUG. 29 '85 M.O.
4	△4	MISCELLANEOUS REVISION.	SEPT. 24. '85
5	△5	MISCELLANEOUS REVISION (OWNER'S REQUIREMENT)	OCT. 31 '85
6	△6	MISCELLANEOUS REVISION (関係(各)現紅)	MAR. 3, 86' H.M.

2103102 6-1/2

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備考:-

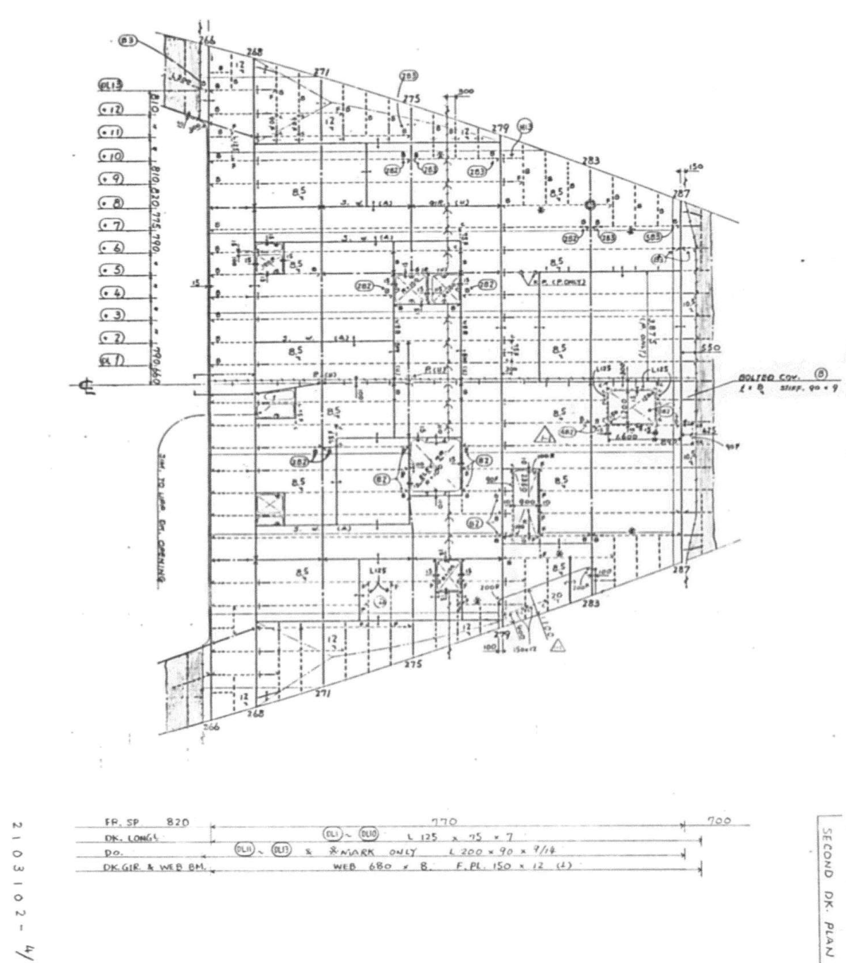
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図(図番2100811)」を参照のこと。
4. 脚長については，特記の他は「脚長表(図番2100832)」を参照のこと。

2103102-2/

355

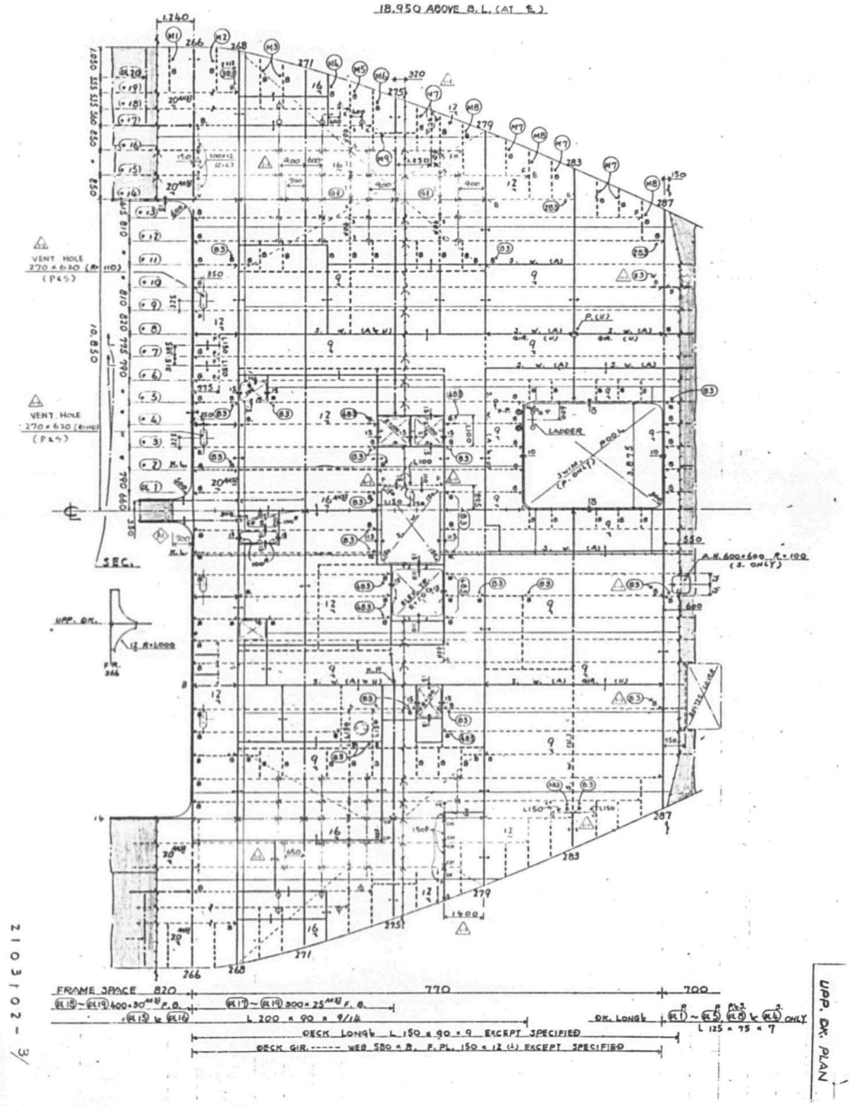
SECOND DK PLAN

15300 ABV. B.L.



UPPER DECK PLAN

18,950 ABOVE B.L. (AT ℄)

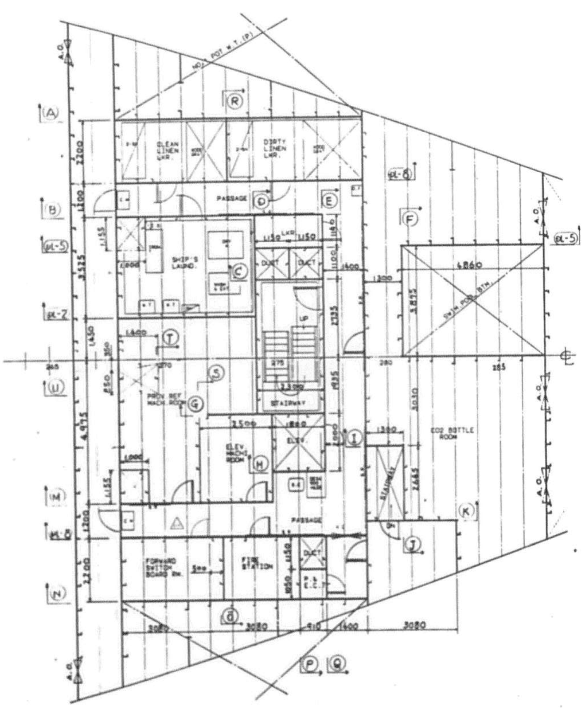


356

NO. 1/2 S. STR

2ND DK WALL PLAN

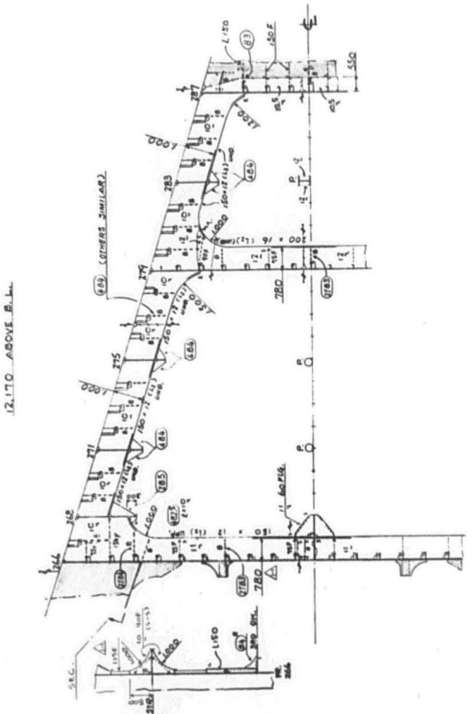
SECOND DK. WALL PLAN



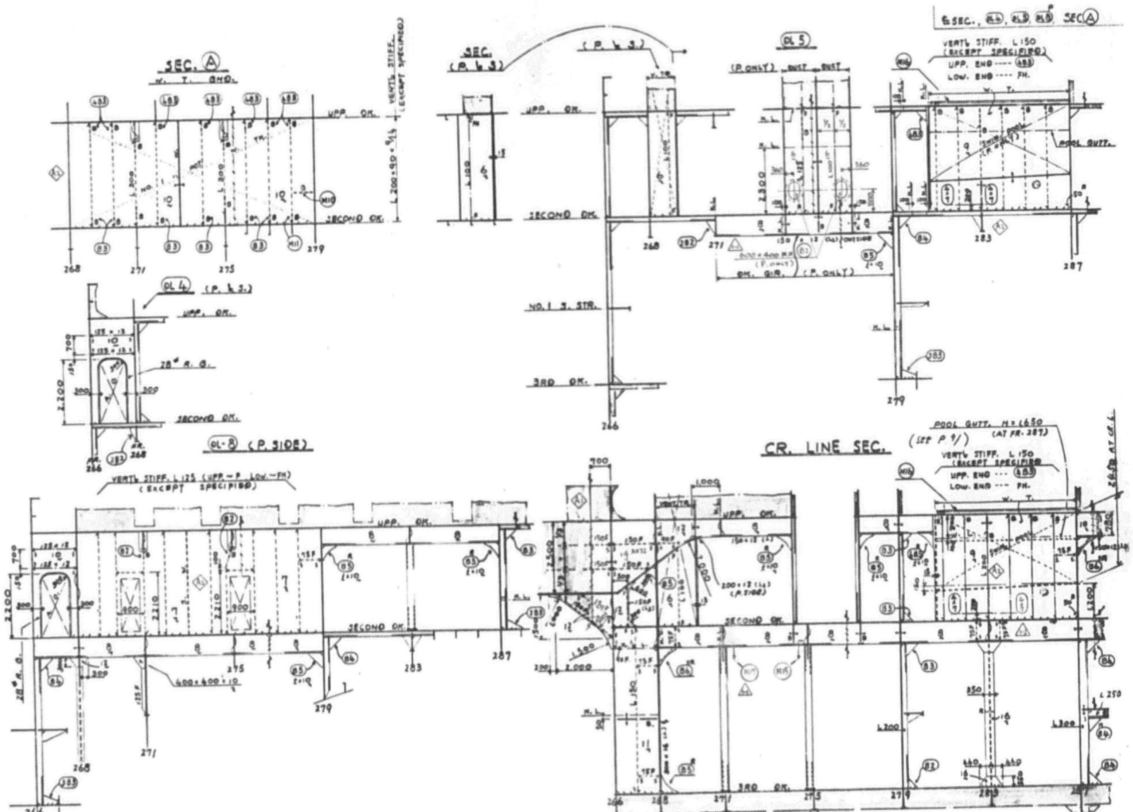
2103102- 4/

NO. 1/2 S. STR.

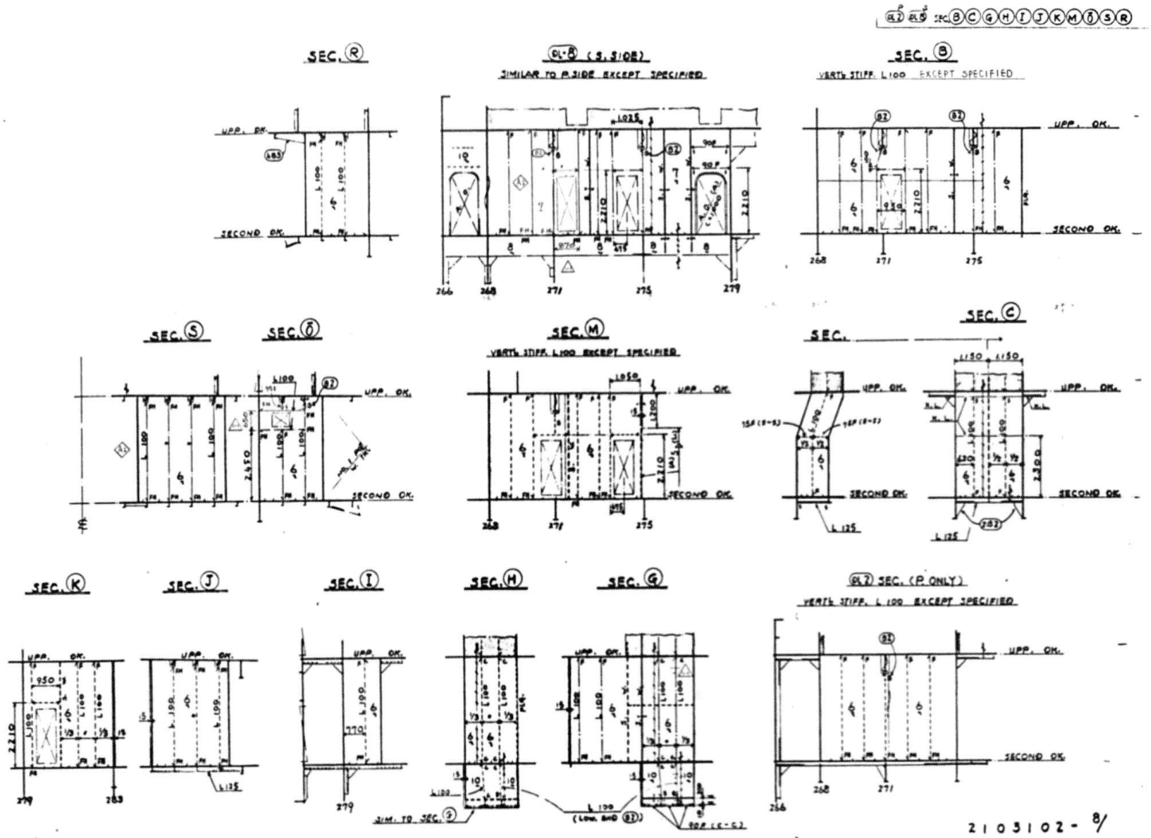
12,170 ABOVE B.L.

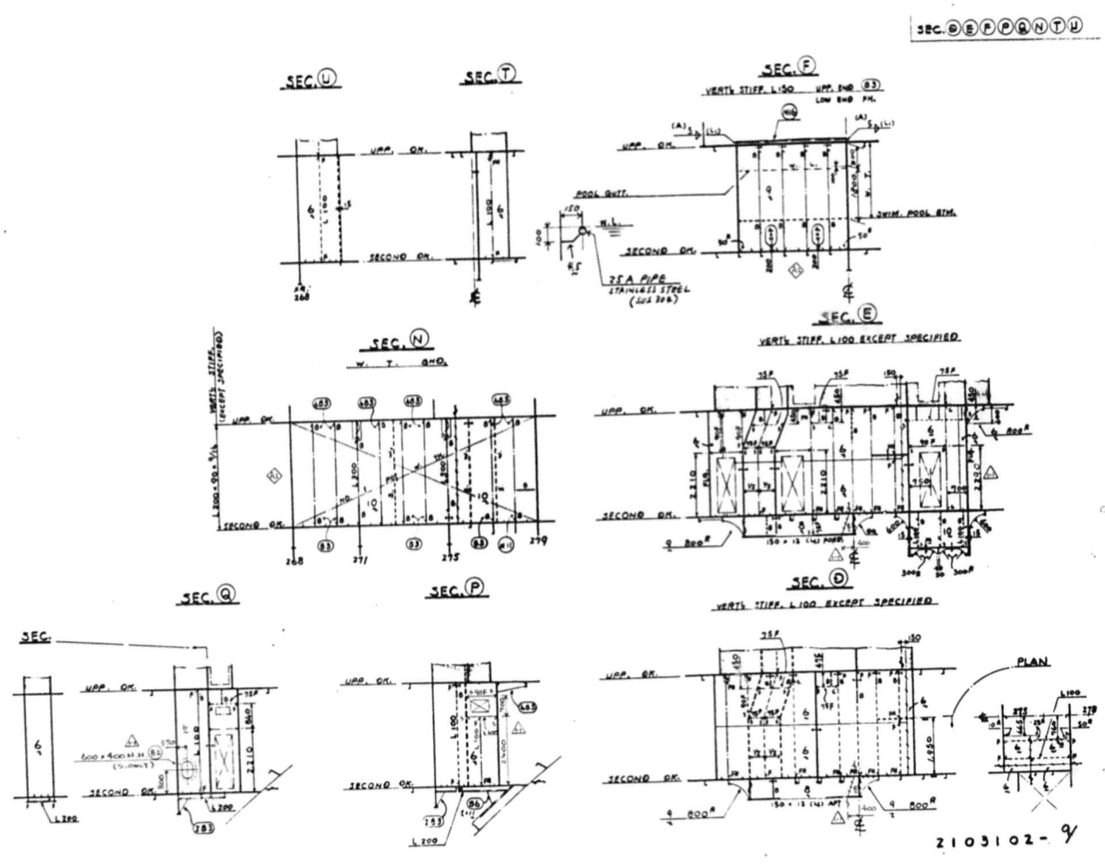


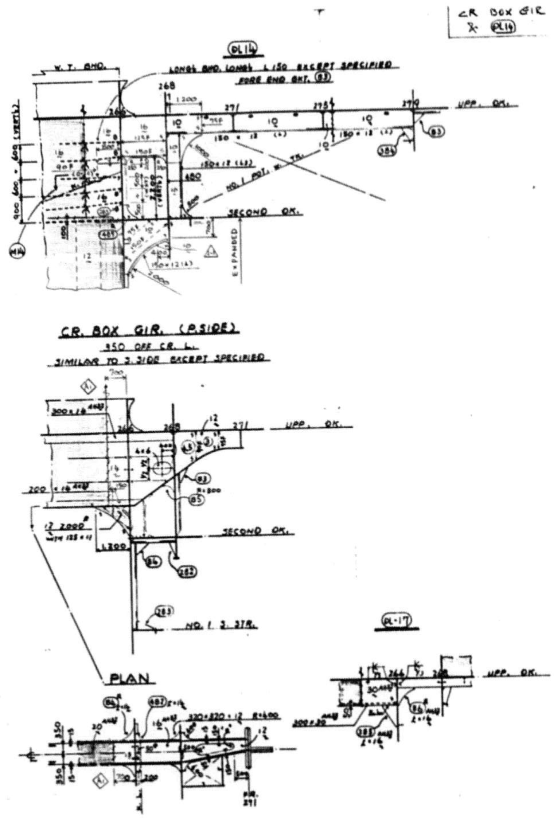
2103102- 5/

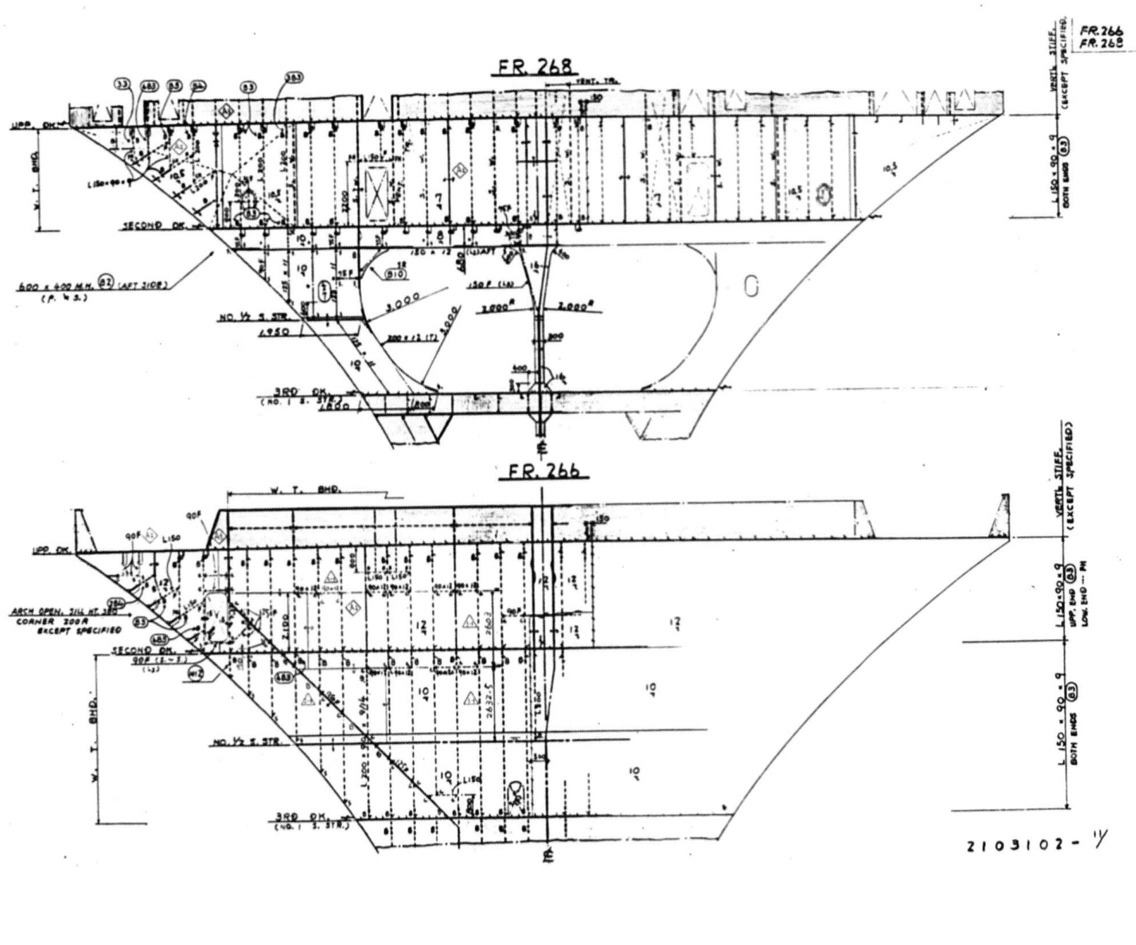


2103102- 7/

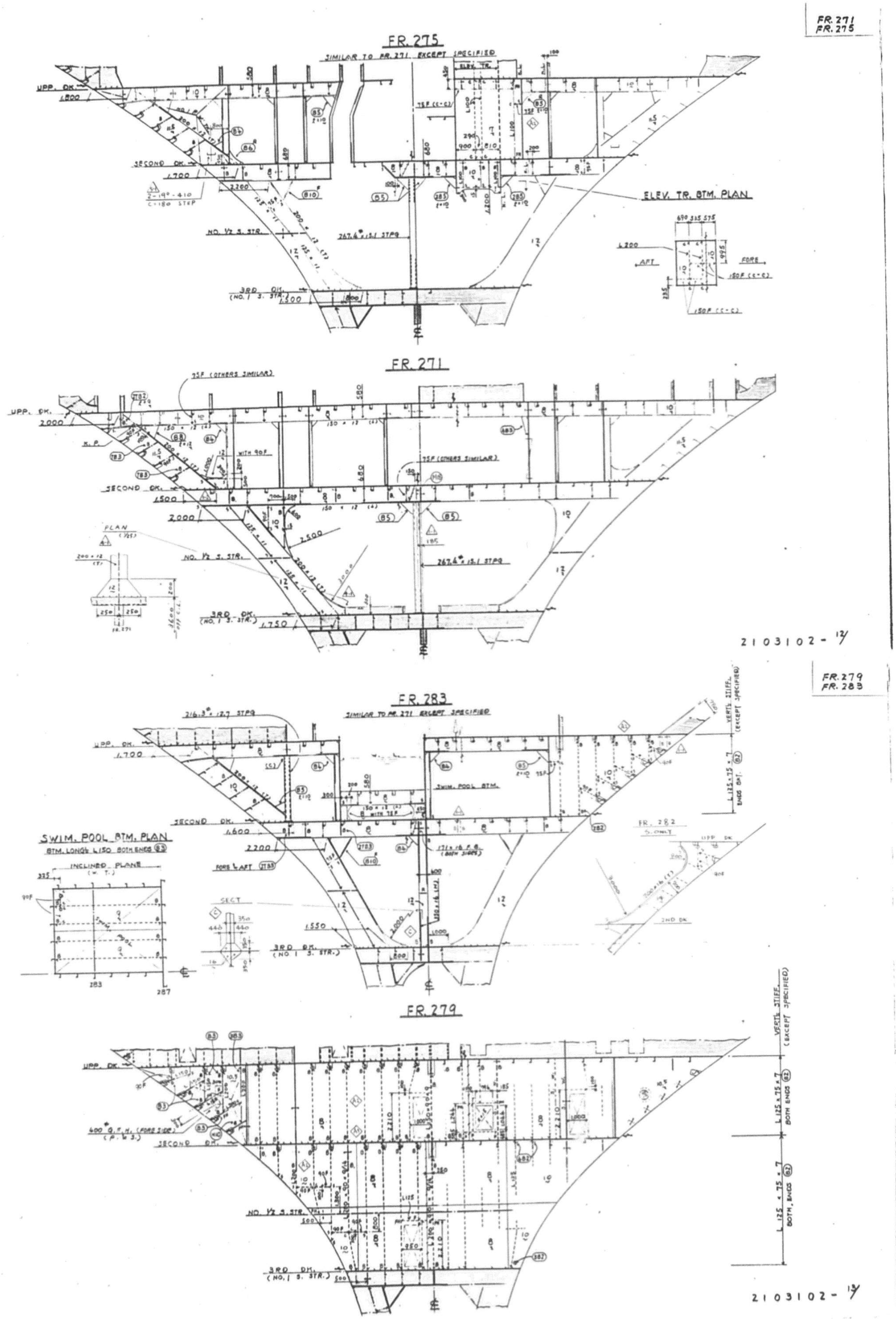

SEC. R
SEC. B
VERT'L STIFF. L100 EXCEPT SPECIFIED
SIMILAR TO P. SIDE EXCEPT SPECIFIED
SEC. S
SEC. M
VERT'L STIFF. L100 EXCEPT SPECIFIED
SEC. C
SEC. K
SEC. J
SEC. I
SEC. H
SEC. G
SEC. (P. ONLY)
VERT'L STIFF. L 100 EXCEPT SPECIFIED
UPP. DK.
SECOND DK.
SIM. TO SEC.
2103102- 8/


SEC. U
SEC. T
SEC. F
VERT'L STIFF. L150
POOL GUTT.
SWIM. POOL BTM.
25 A PIPE
STAINLESS STEEL
(SUS 304)
SEC. N
W. T. BHD.
SEC. E
VERT'L STIFF. L100 EXCEPT SPECIFIED
SEC. Q
SEC. P
SEC. D
VERT'L STIFF. L100 EXCEPT SPECIFIED
PLAN
UPP. DK.
SECOND DK.
2103102- 9/


CR. BOX GIR.
CR. BOX GIR. (P.SIDE)
350 OFF CR. L.
SIMILAR TO S.SIDE EXCEPT SPECIFIED
UPP. DK.
SECOND DK.
NO. 1 S. STR.
PLAN
EXPANDED
2103102-1/Y

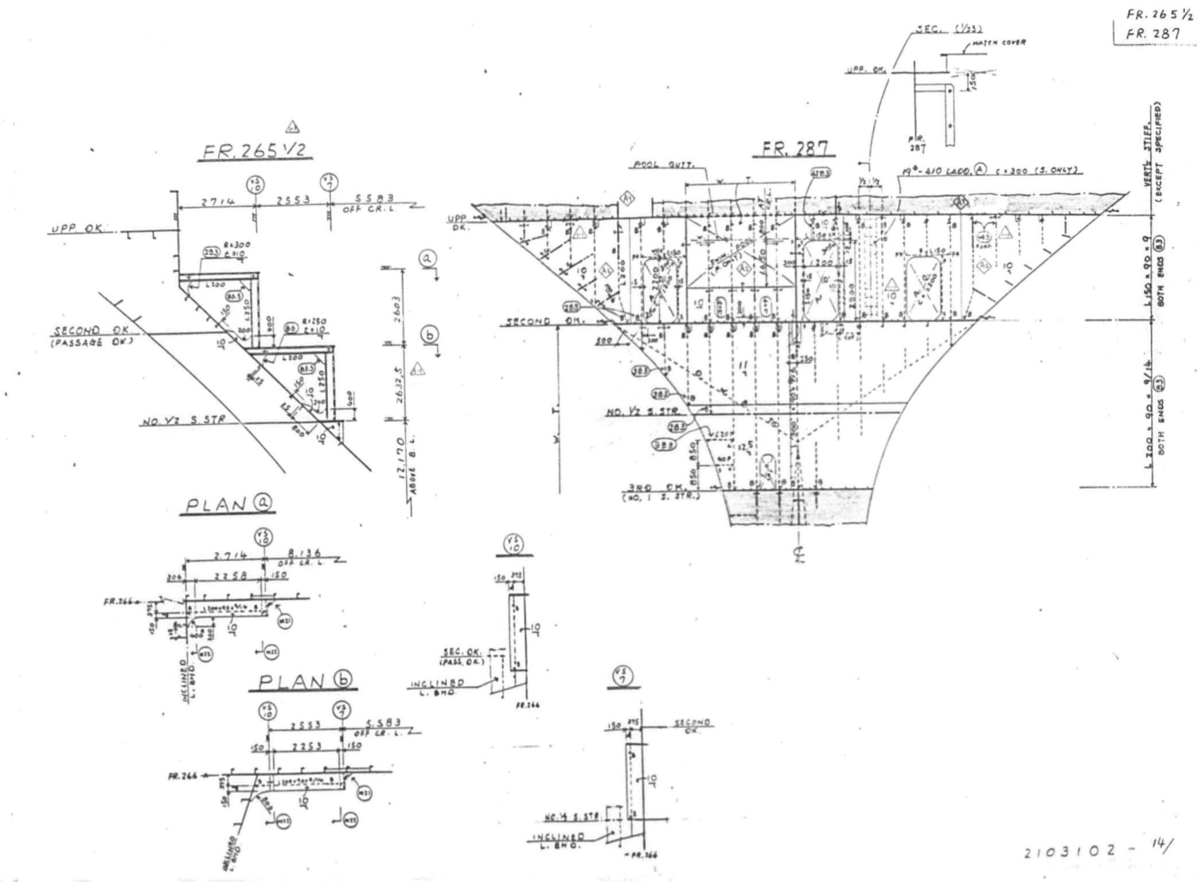

FR. 268
FR. 266
FR.266
FR.268
VERTL. STIFF.
(EXCEPT SPECIFIED)
UPP. DK.
W. T. BHD.
SECOND DK.
NO. 1/2 S. STR.
3RD DK.
(NO. 1 S. STR.)
BOTH ENDS
ARCH OPEN. 314 AT 350
CORNER 200R
EXCEPT SPECIFIED
2103102-1/Y

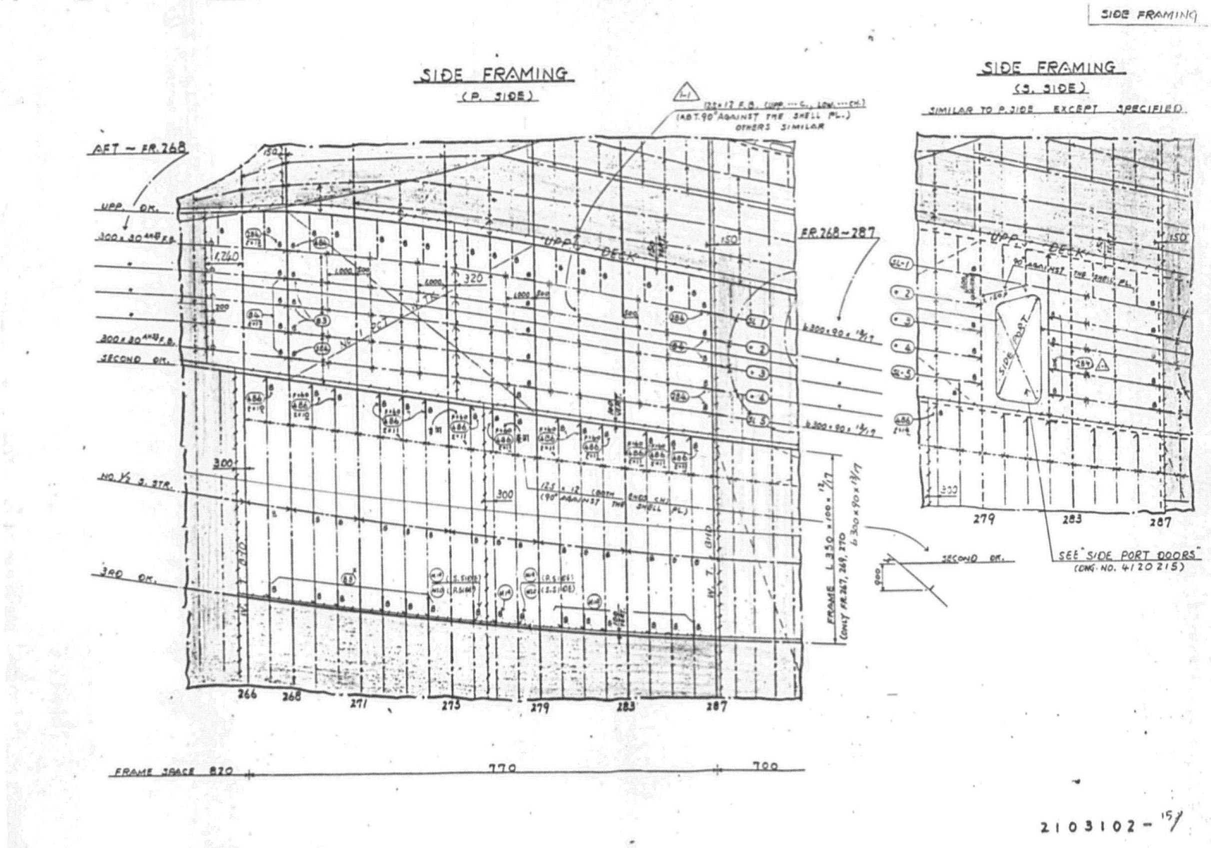
359



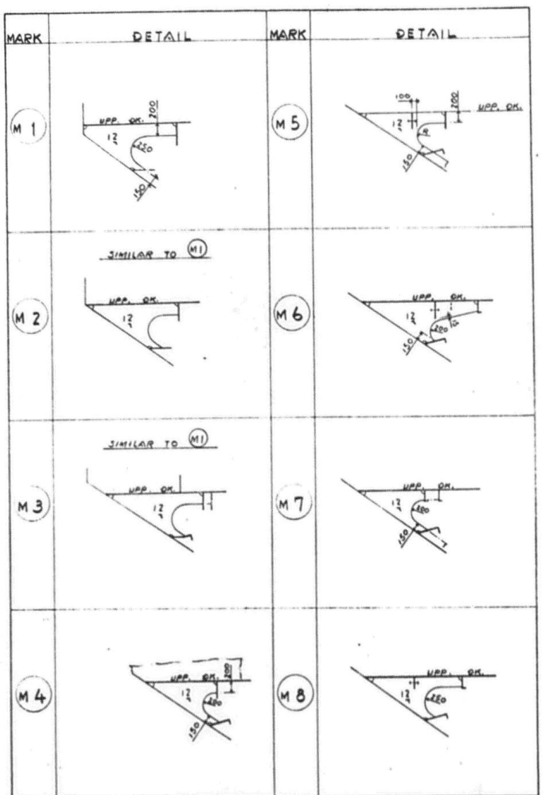
FR. 271
FR. 275
FR. 275
SIMILAR TO FR. 271 EXCEPT SPECIFIED
ELEV. TR. BTM. PLAN
FR. 271
2103102-17
FR. 279
FR. 283
FR. 283
SIMILAR TO FR. 271 EXCEPT SPECIFIED
SWIM. POOL BTM. PLAN
FR. 279
2103102-17

360

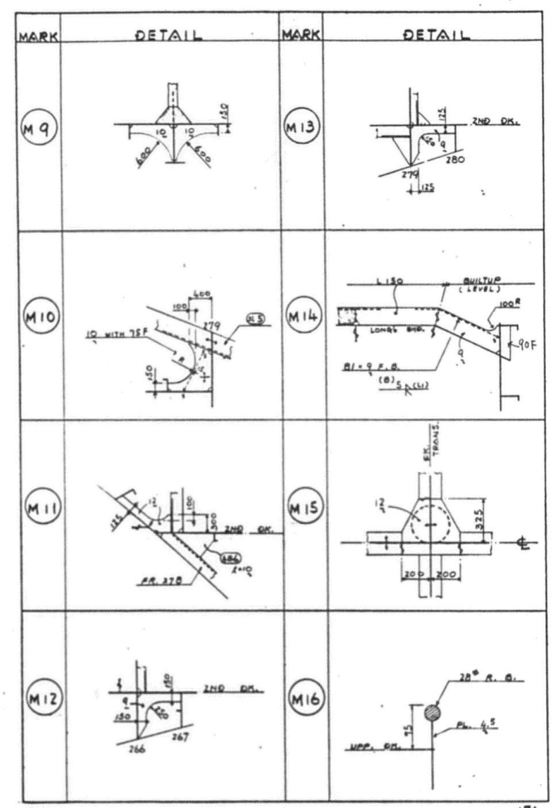

FR. 265 1/2
FR. 287
FR. 265 1/2
FR. 287
PLAN ⓐ
PLAN ⓑ
UPP. DK.
SECOND DK.
(PASSAGE DK.)
NO. 1/2 S. STR.
POOL GUTT.
3RD DK.
(NO. 1 S. STR.)
VERT. STIFF.
(EXCEPT SPECIFIED)
SEC. DK.
(PASS. DK.)
INCLINED
L. BHD.
2103102 - 14/


SIDE FRAMING
SIDE FRAMING
(P. SIDE)
SIDE FRAMING
(S. SIDE)
SIMILAR TO P. SIDE EXCEPT SPECIFIED
AFT - FR. 268
UPP. DK.
SECOND DK.
NO. 1/2 S. STR.
3RD DK.
UPP. DECK
FR. 268 - 287
266
268
271
275
279
283
287
FRAME SPACE 820
770
700
SEE "SIDE PORT DOORS"
(DWG. NO. 4120215)
2103102 - 15/

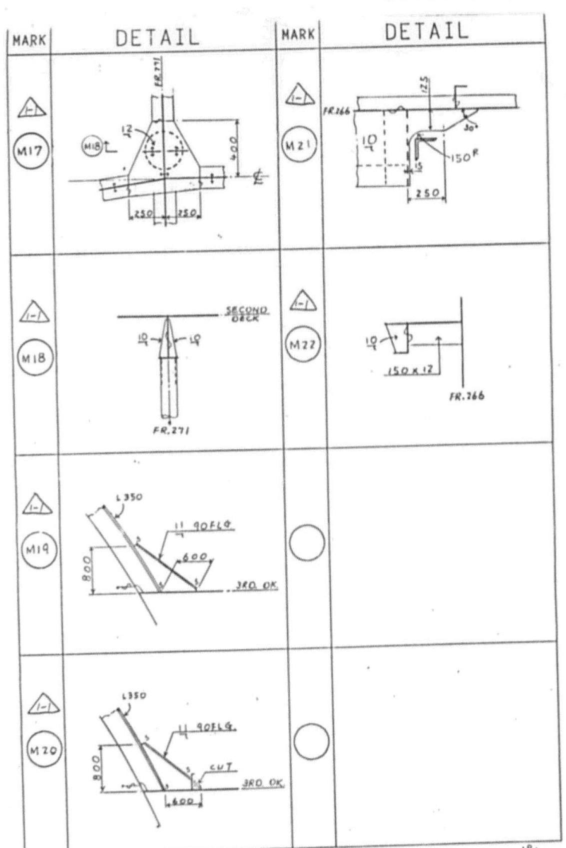
361



2103102-14



2103102-17



2103102-18/18

APPROVAL OF OWNER & REGULATORY BODIES

ALT.NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	16JUL'86	OFTS/MES-719			30AUG'86	T-8-2		
1ST PART REV	9SEP'86	TAM/57			9OCT'86	T-8-2		
2ND PART REV	8SEP'86				9OCT'86	T-8-2		
3RD PART REV	8SEP'86	TAM/63			16OCT'86	T-8-2		
4TH PART REV	4NOV'86	TAM/105			20NOV'86	T-8-2		
5TH PART REV	19DEC'86	TAM/136			20FEB'86	T-8-2		
6TH PART REV	19DEC'86	TAM/135			20FEB'86	T-8-2		
7TH PART REV	6FEB'86	TAM/147			20FEB'86	T-8-2		
8TH PART REV	1APR'86	TAM/162			26MAR'86	T-8-2		

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC.CHIEF
ASSIST.CHIEF
STAFF
DATE (TEL 2230)

SHIP'S NO. 1325
SHIP'S NAME TILLIE LYKES

居住区構造
ACCOMMODATION CONSTRUCTION
SALOON DECK (1/7)

JOB NO. TS1323/24/25
SCALE 1/100
LYKES REF. NO. 111601
MITSUI DRAWING NO. 2105411
JOBCLASSIF.NO.

(11 SHEETS WITH COVER)

PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV.28.'86

DWG.NO. 2105411-1/

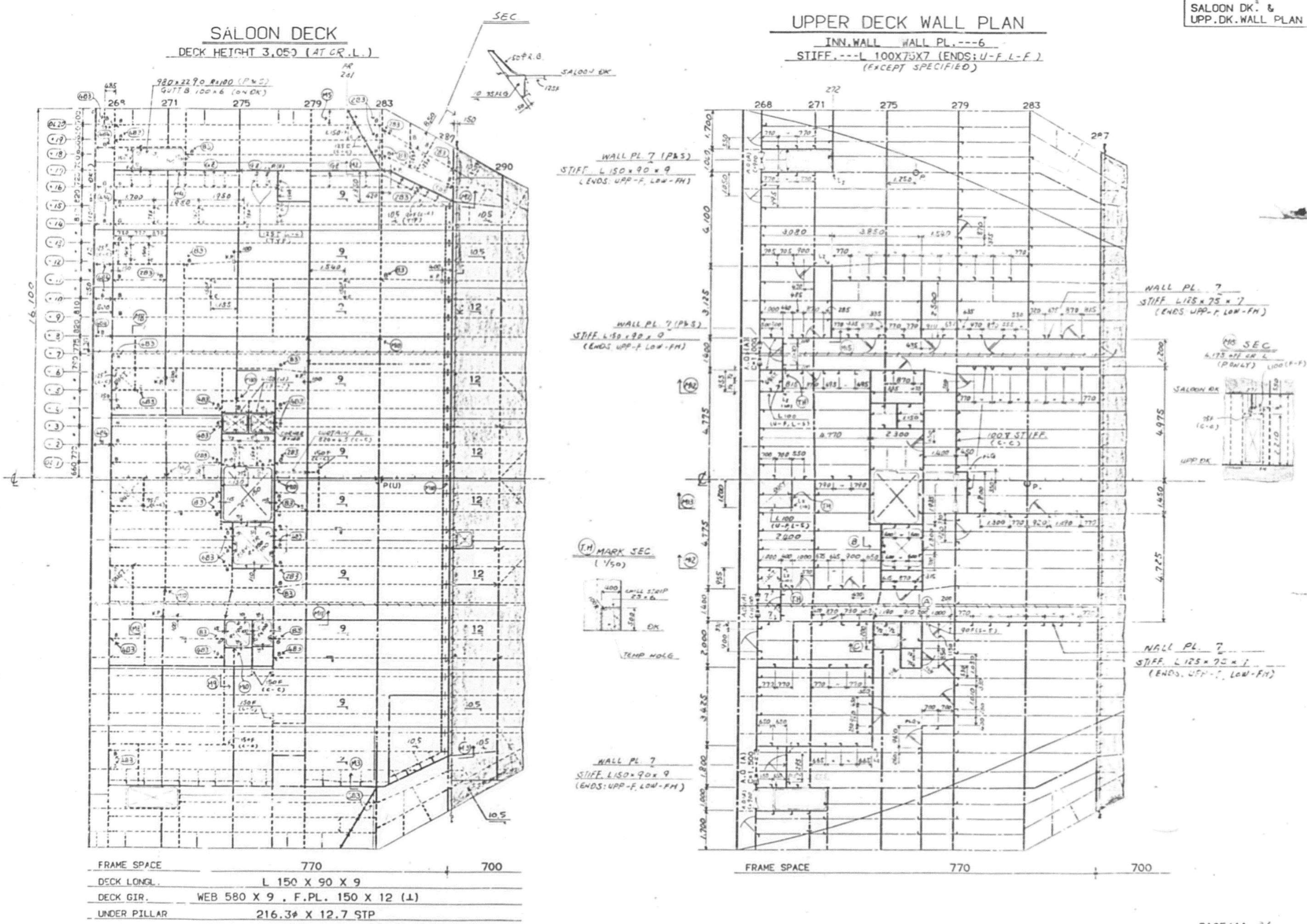
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

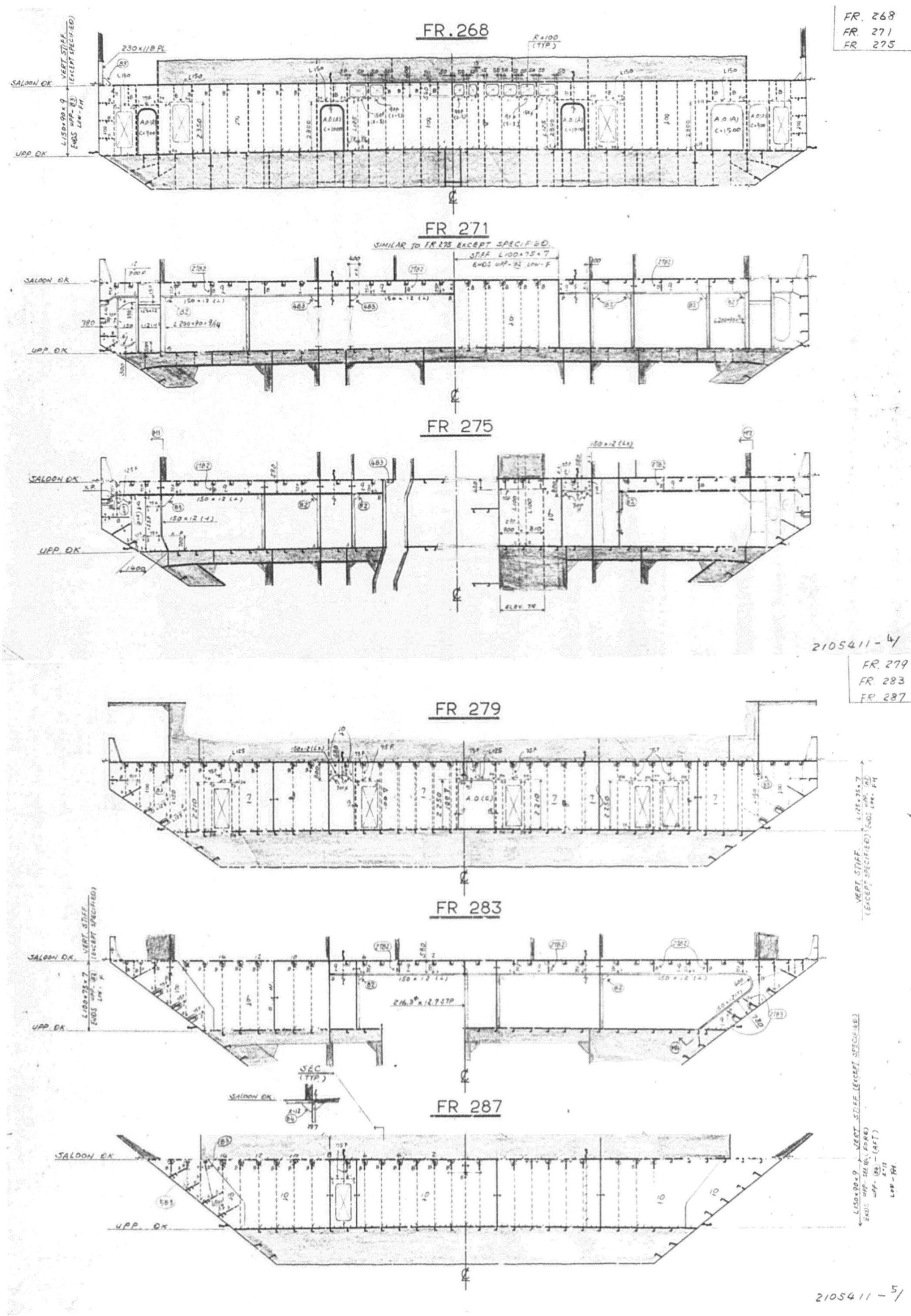
備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は '構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は '溶接脚長表（図番2100832）'を参照のこと。

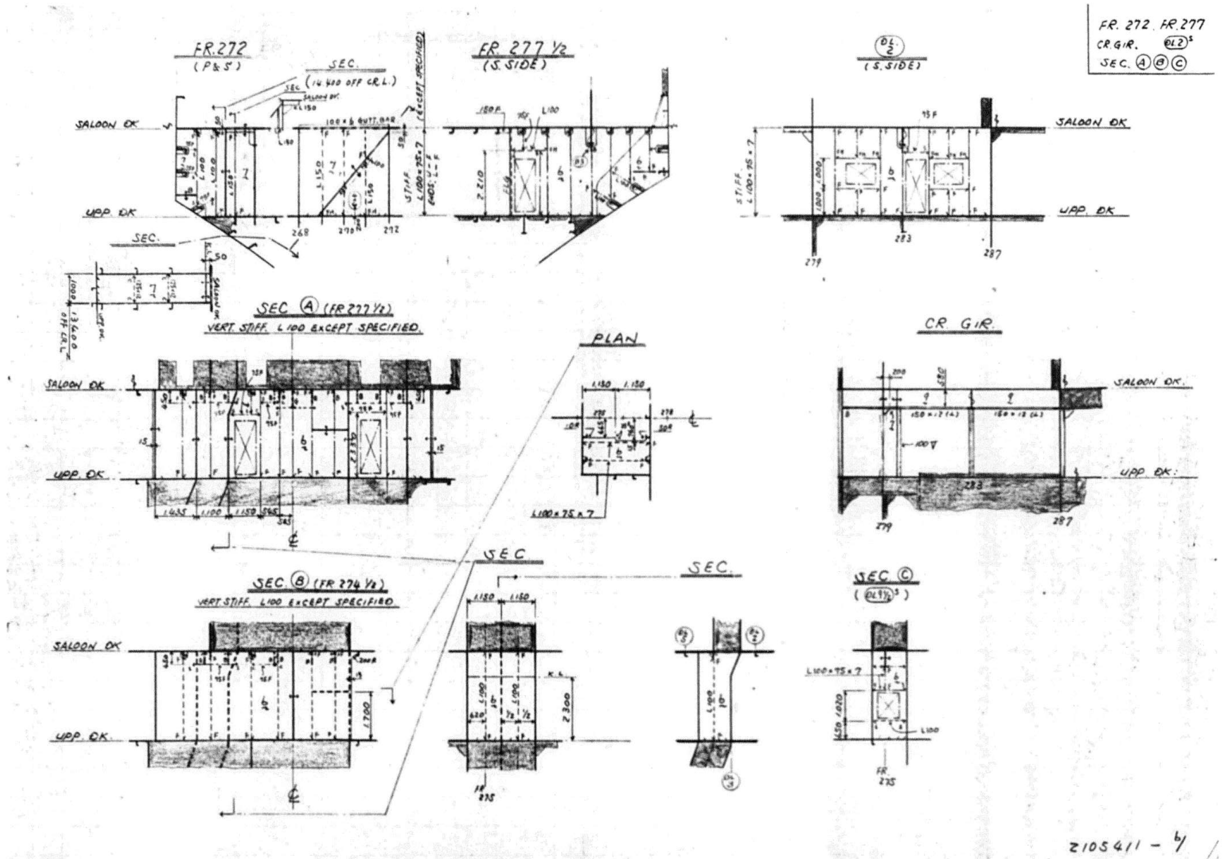
2105411-4

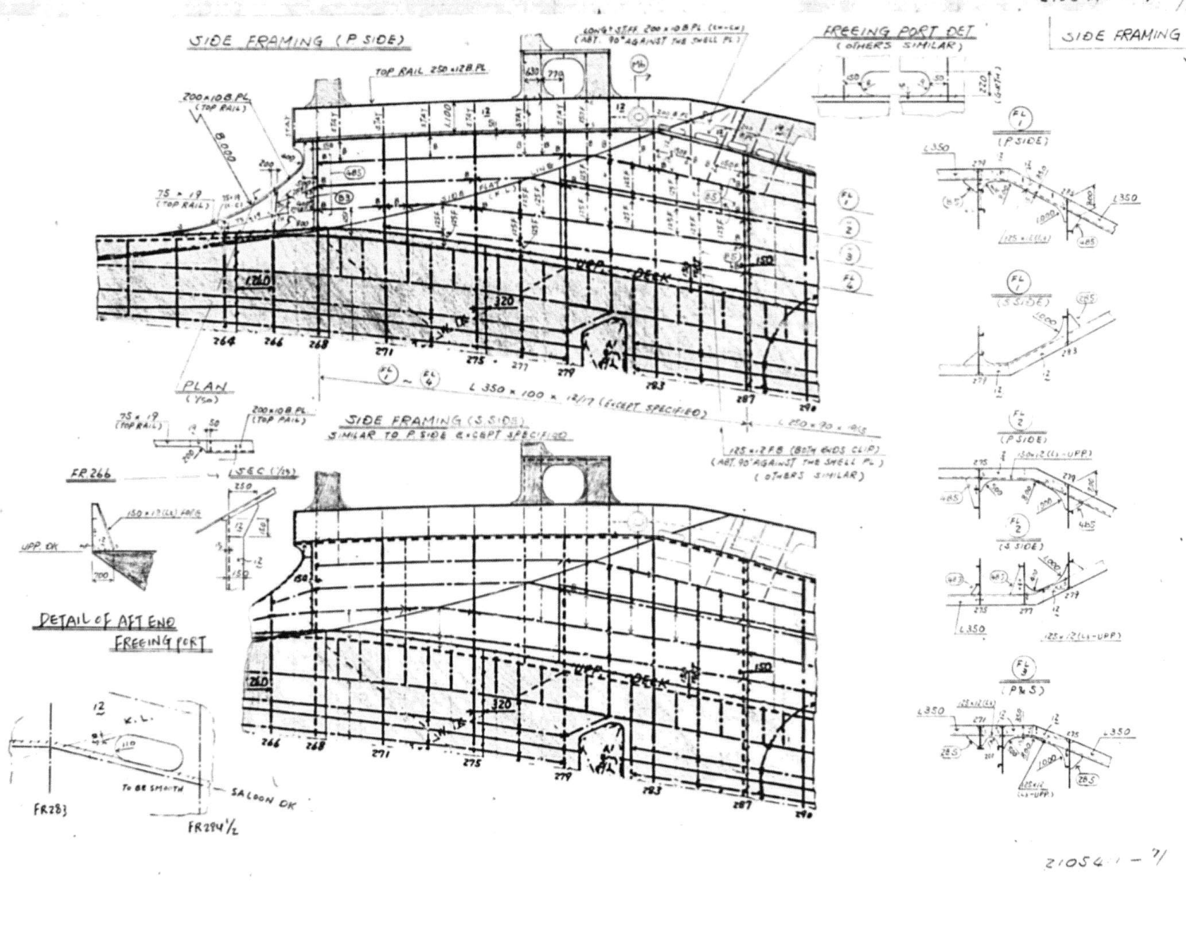

SALOON DECK
DECK HEIGHT 3,050 (AT CR.L.)
FRAME SPACE 770 700
DECK LONGL. L 150 X 90 X 9
DECK GIR. WEB 580 X 9 . F.PL. 150 X 12 (⊥)
UNDER PILLAR 216.3φ X 12.7 STP
UPPER DECK WALL PLAN
INN.WALL WALL PL.---6
STIFF.---L 100X75X7 (ENDS; U-F L-F)
(EXCEPT SPECIFIED)
FRAME SPACE 770 700

2105411-3/

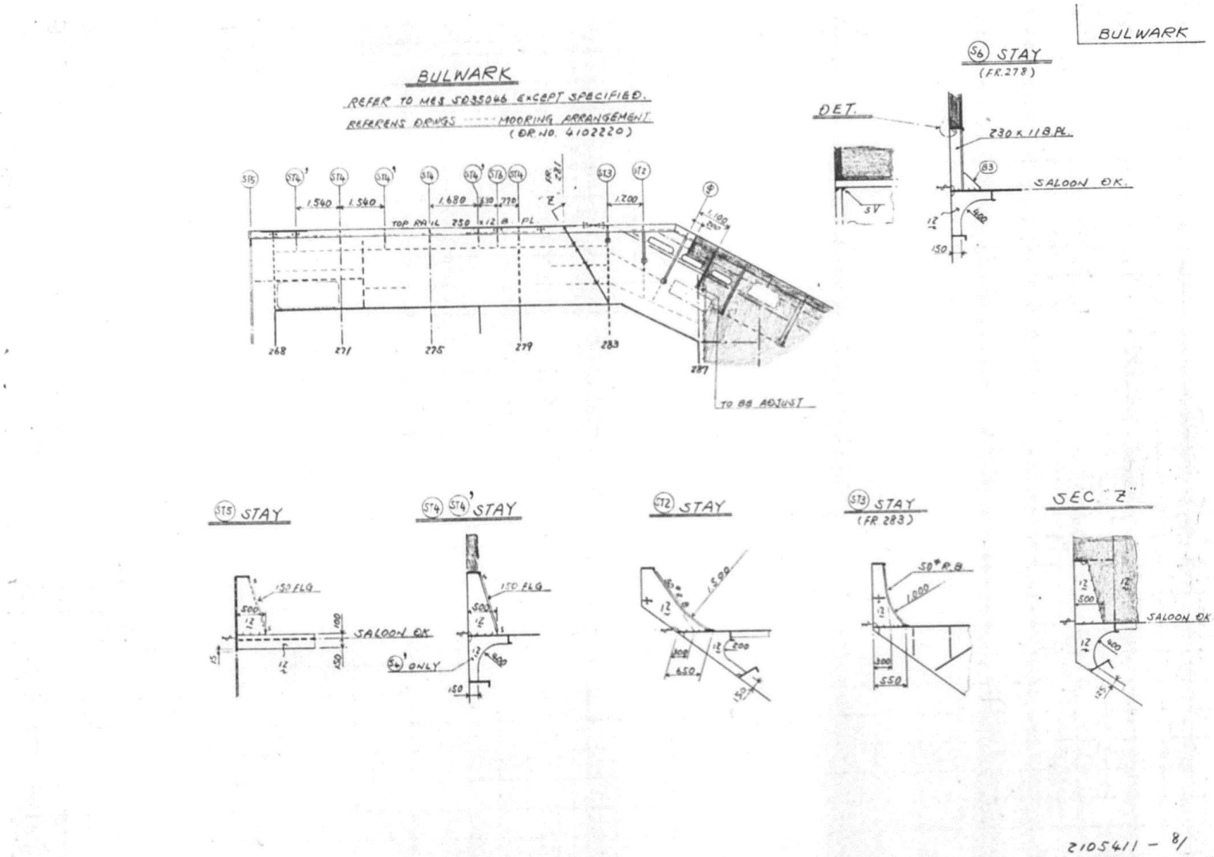

FR. 268
FR. 271
FR. 275
FR. 268
VERT STIFF (EXCEPT SPECIFIED)
L150×90×9
SALOON DK
UPP DK
230×11 B PL
FR 271
SIMILAR TO FR 275 EXCEPT SPECIFIED
SALOON DK
UPP DK
FR 275
SALOON DK
UPP DK
ELEV. 76
2105411 – 4/
FR. 279
FR. 283
FR. 287
FR 279
VERT STIFF (EXCEPT SPECIFIED)
L125×75×7
FR 283
SALOON DK
UPP DK
VERT STIFF (EXCEPT SPECIFIED)
L100×75×7
SEC (TYP.)
FR 287
SALOON DK
UPP DK
VERT STIFF (EXCEPT SPECIFIED)
L150×90×9
2105411 – 5/

365

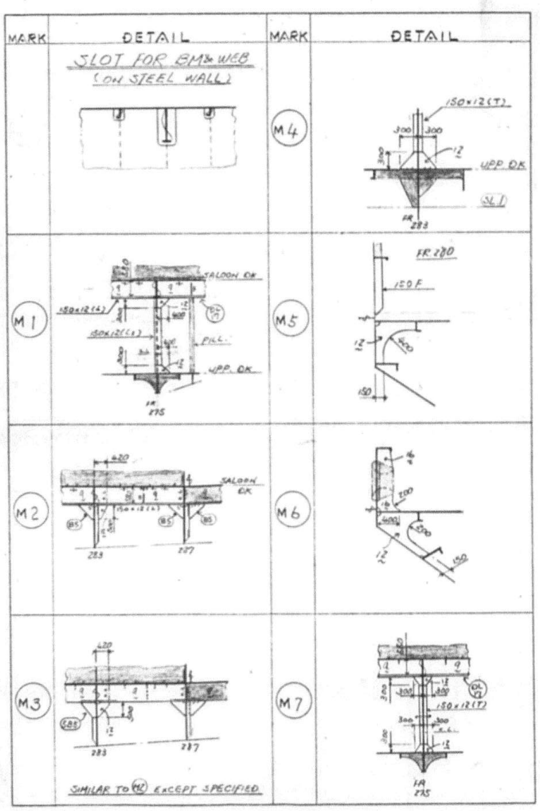

FR. 272. FR. 277
CR. GIR.
SEC. A B C
FR. 272 (P & S)
SEC.
FR 277 1/2 (S. SIDE)
(S. SIDE)
SALOON DK
UPP. DK
SEC A (FR 277 1/2)
VERT. STIFF. L100 EXCEPT SPECIFIED.
PLAN
CR. GIR.
SEC B (FR 274 1/2)
VERT. STIFF. L100 EXCEPT SPECIFIED
SEC
SEC.
SEC C
Z105411 - 6/


SIDE FRAMING
SIDE FRAMING (P SIDE)
TOP RAIL 250 x 12 B.PL
FREEING PORT DET
(OTHERS SIMILAR)
UPP. DECK
PLAN
L 350 x 100 x 12/17 (EXCEPT SPECIFIED)
SIDE FRAMING (S SIDE)
SIMILAR TO P SIDE EXCEPT SPECIFIED
FR 266
SEC
UPP. DK
DETAIL OF AFT END FREEING PORT
SALOON DK
FR 283
FR 284 1/2
(P SIDE)
(S SIDE)
(P & S)
Z105411 - 7/

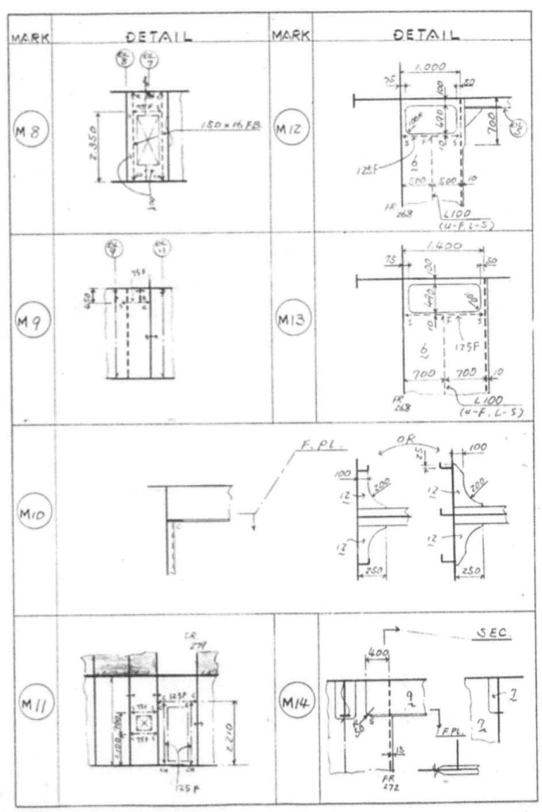
366



210541l - 8/



210541l - 9/



210541l - 10/10

367

APPROVAL OF OWNER & REGULATORY BODIES

ALT.NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL					30AUG'84	T-8-2		
1ST. REV	22AUG'86	OFTS/MES-994			9OCT'86	T-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER — STRUCTURE DESIGN SEC. — SEC.CHIEF — ASSISTANT CHIEF — CHECKED BY — STAFF — DATE (TEL)

SHIP'S NO.: 1325
SHIP'S NAME: TILLIE LYKES

居住区構造
ACCOMMODATION CONSTRUCTION
CREW DECK (3/4)

JOB NO.	SCALE	LYKES REF. NO.	MITSUI DRAWING NO.
TS1323/24/25	1/100	111602	2105412

(10 SHEETS WITH COVER)

PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARERD FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO. 1324 AND S.NO. 1325"	NOV. 28. '86

DWG.NO. 2105412 - 1/

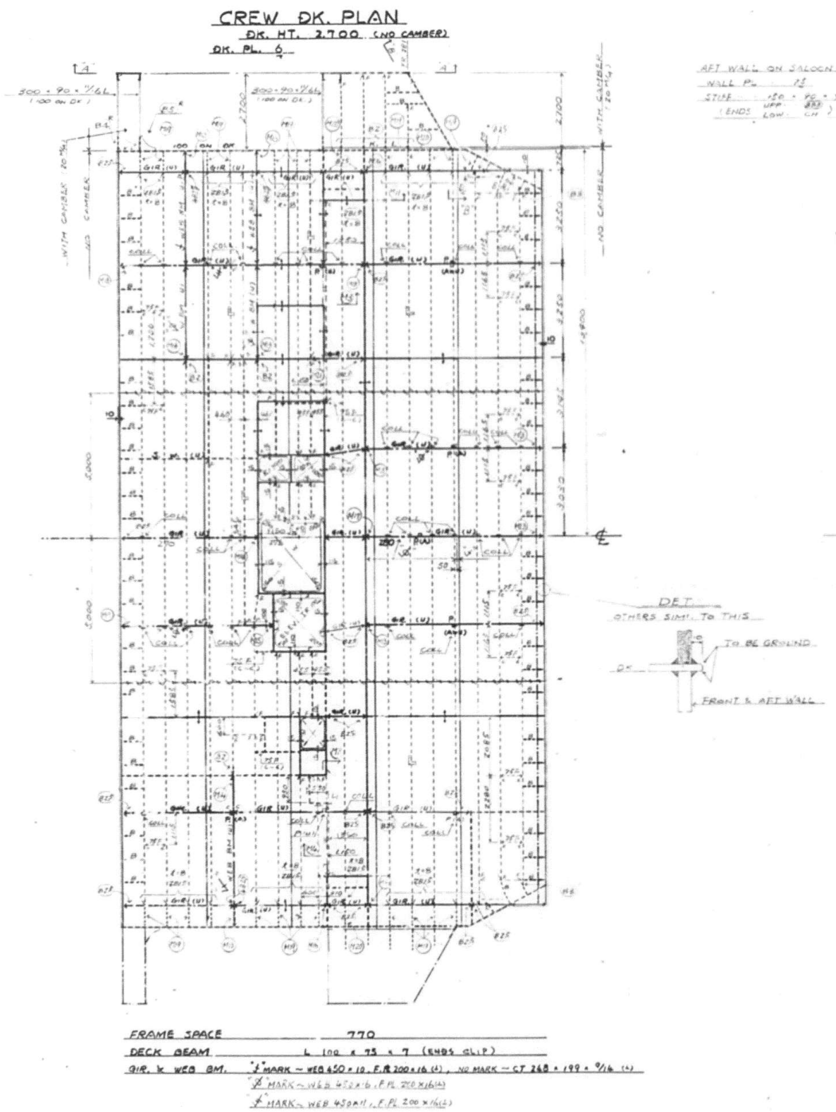
NOTES:-

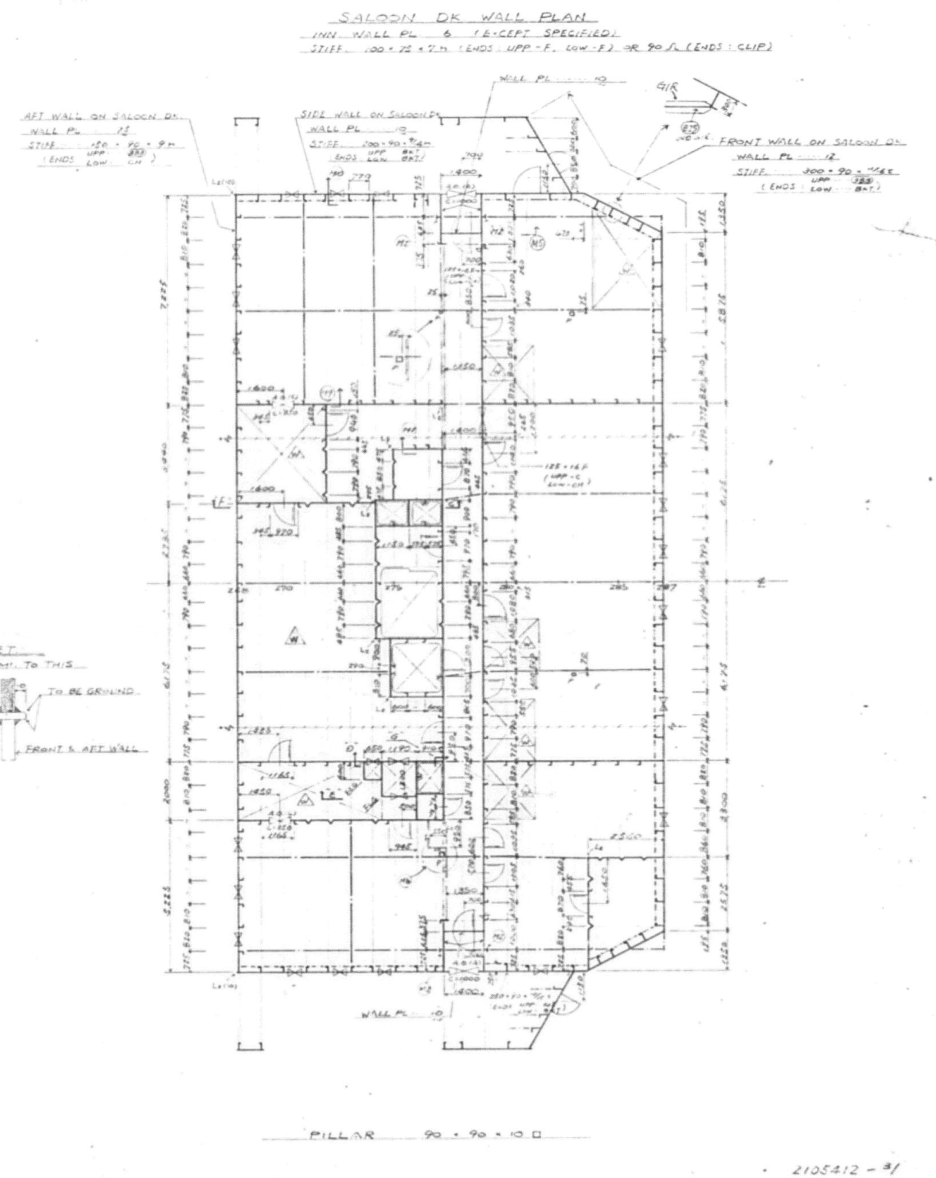
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
   ⚠ MARK SHOWS THE WETTED SPACE AND CONTINUOUS WELD TO BE APPLIED.
5. DECK HEIGHT .... 2,700 (AT CR. LINE)
6. DECK CAMBER "SEE - PAGE 3/"

備考:-

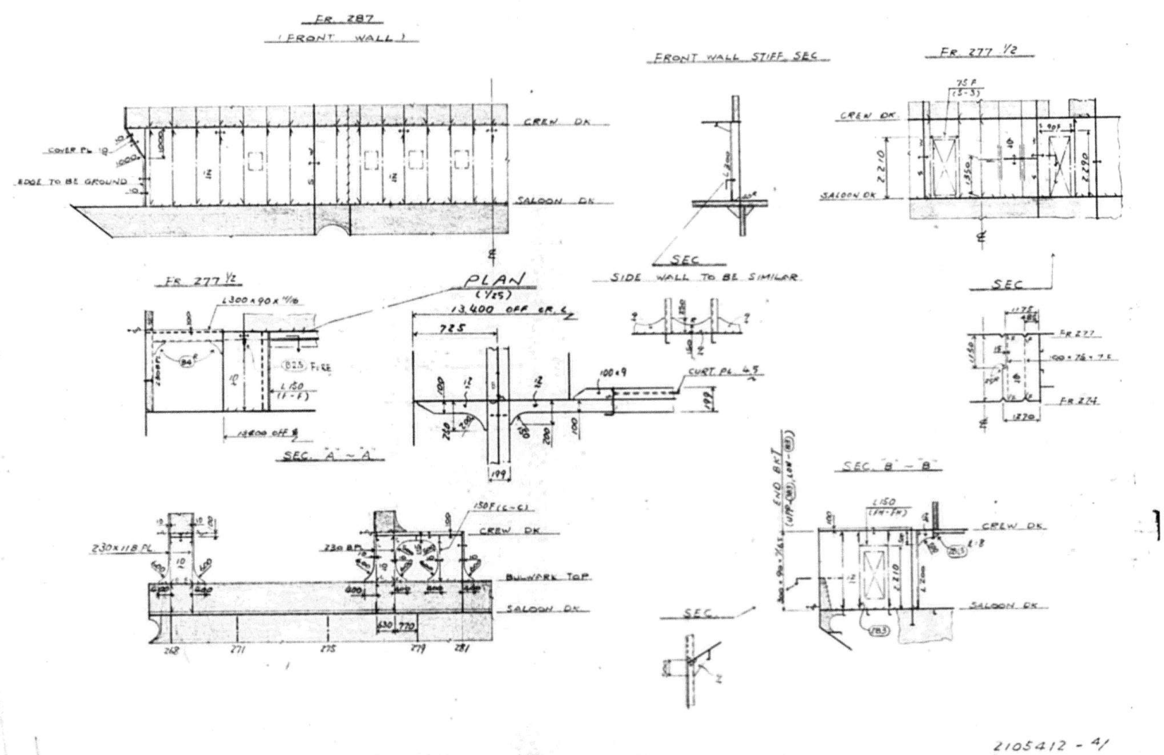
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は '構造詳細図(図番2100811)'を参照のこと。
4. 溶接脚長については，特記の他は '溶接脚長表(図番2100832)'を参照のこと。
   ⚠ 印は湿気区画を示し，連続溶接を適用する。
5. デッキ高さ ……… 2700 (船体中心線にて)
6. デッキキャンバー SEE - PAGE 3/

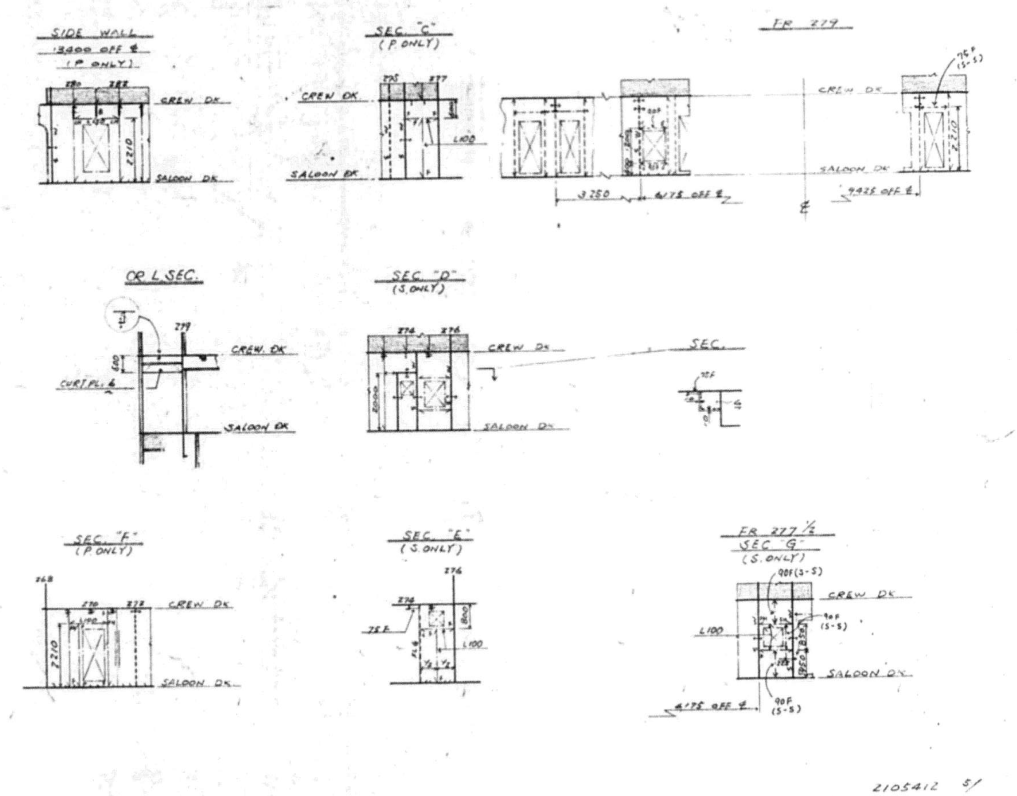
2105412 - 2/

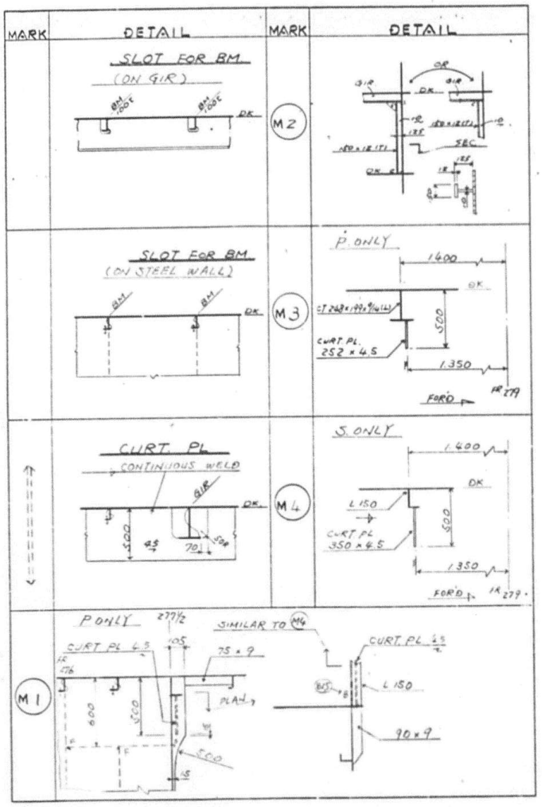

CREW DK. PLAN
DK. HT. 2,700 (NO CAMBER)
DK. PL. 6
DET.
OTHERS SIMI. TO THIS
TO BE GROUND
FRONT & AFT WALL
FRAME SPACE 770
DECK BEAM L 100 × 75 × 7 (ENDS CLIP)


SALOON DK WALL PLAN
AFT WALL ON SALOON DK
SIDE WALL ON SALOON DK
FRONT WALL ON SALOON DK
PILLAR 90 × 90 × 10 □
2105412 - 31

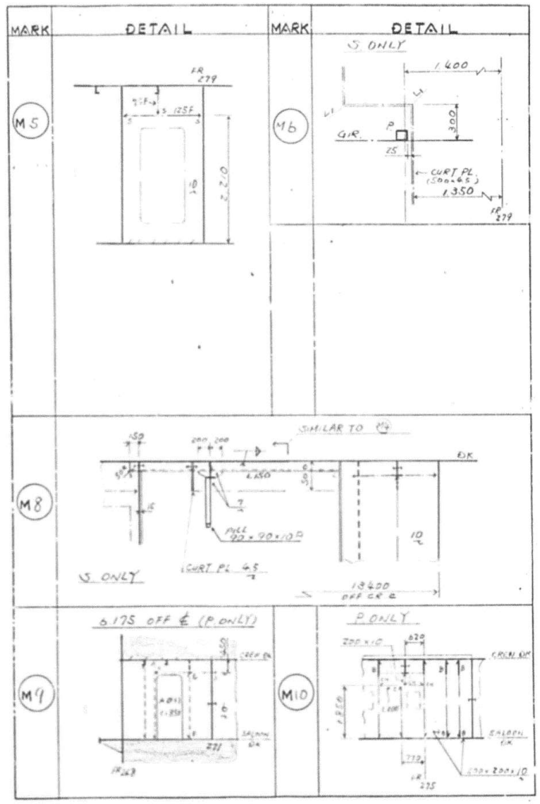
369


FR. 287
(FRONT WALL)
FRONT WALL STIFF. SEC.
FR. 277 1/2
CREW DK
SALOON DK
COVER PL. 10
EDGE TO BE GROUND
SEC.
SIDE WALL TO BE SIMILAR
FR. 277 1/2
PLAN
(1/25)
13,400 OFF CR. ℄
725
CURT. PL. 4.5
SEC. "A" - "A"
SEC. "B" - "B"
230x118 PL.
BULWARK TOP
END BKT
262
271
275
279
281
2105412 - 41

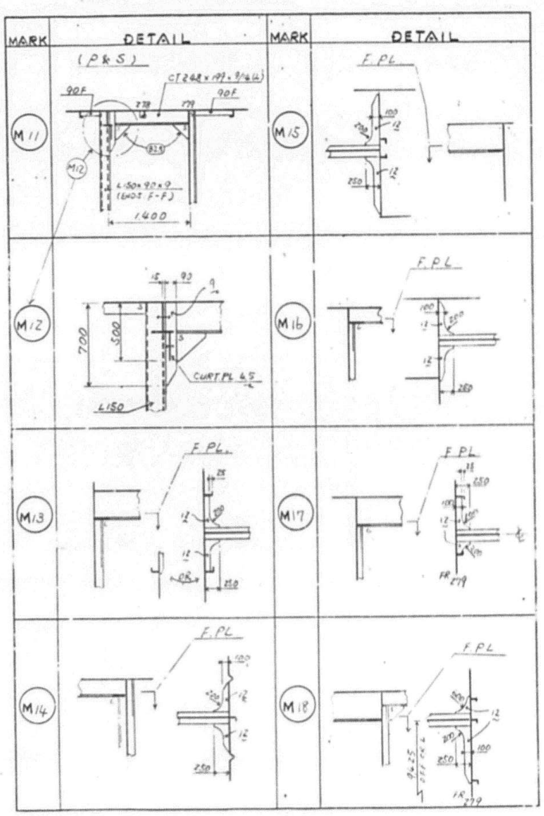

SIDE WALL
13400 OFF ℄
(P. ONLY)
SEC. "C"
(P. ONLY)
FR. 279
CREW DK
SALOON DK
3,250
6175 OFF ℄
9425 OFF ℄
CR. L SEC.
CURT. PL. 6
SEC. "D"
(S. ONLY)
SEC.
SEC. "F"
(P. ONLY)
SEC. "E"
(S. ONLY)
FR. 277 1/2
SEC. "G"
(S. ONLY)
6175 OFF ℄
2105412 51



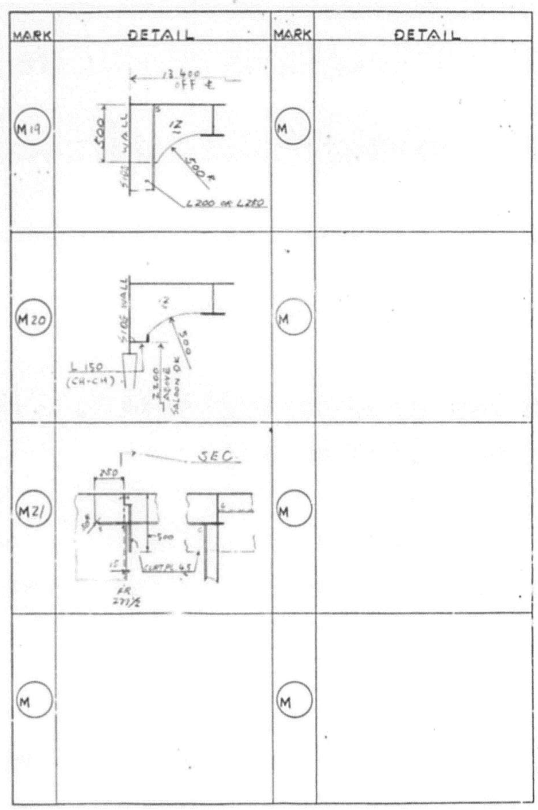
2105412 - 6/



Z105412 - 7/.



Z105412 - 8/



Z105412 - 9/9

371

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	[illegible]	[illegible]			[illegible]	T-9-2		
1ST REV	[illegible]	[illegible]			9 OCT '96	T-9-2		

APPROVAL OF OWNER & REGULATORY BODIES

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER
STRUCTURE DESIGN SEC.
STAFF
DATE (TEL 22301)
JOB NO. TS1323/24/25
JOBCLASSIF. NO. 805
SCALE 1/100

SHIP'S NO. 1325
SHIP'S NAME TILLIE LYKES

居住区構造
ACCOMMODATION CONSTRUCTION
BOAT DECK (3/7)

LYKES REF. NO. 111603
MITSUI DRAWING NO. 2105413

(7 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV.28.'96

DWG.NO. 2105413-1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
   ⚠ MARK SHOWS THE WETTED SPACE AND CONTINUOUS WELD TO BE APPLIED.
5. DECK HEIGHT .... 2,700 (AT CR. LINE)
6. DECK CAMBER "SEE P-3/4"

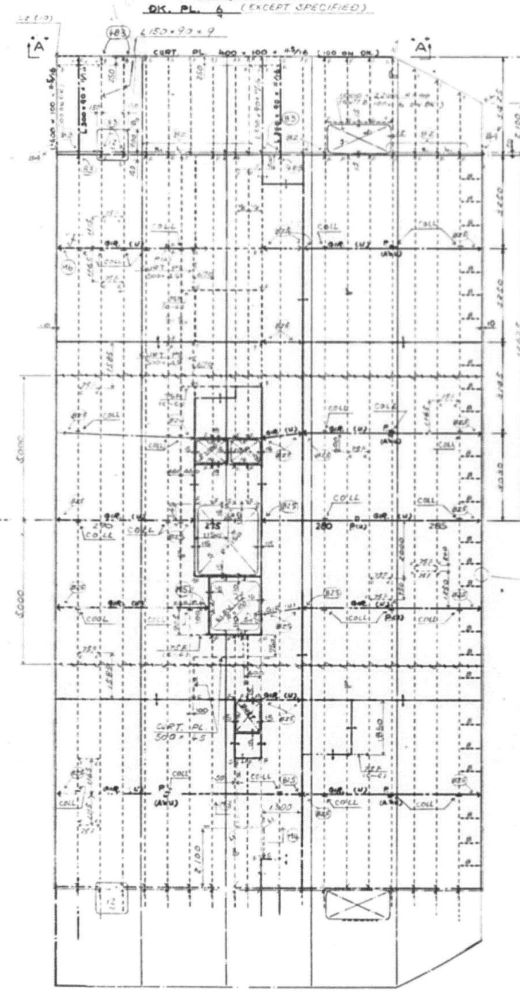
備 考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番2100811）」を参照のこと。
4. 溶接脚長については，特記の他は「溶接脚長表（図番2100832）」を参照のこと。
   ⚠ 印は濡れ区画を示し，連続溶接を適用する。
5. デッキ高さ ……… 2,700 （船体中心線にて）
6. デッキキャンバー "SEE P-3/4"

2105413-2/

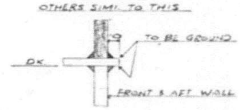
BOAT DK. PLAN

DK. HT. 2700
DK. PL. 6 (EXCEPT SPECIFIED)



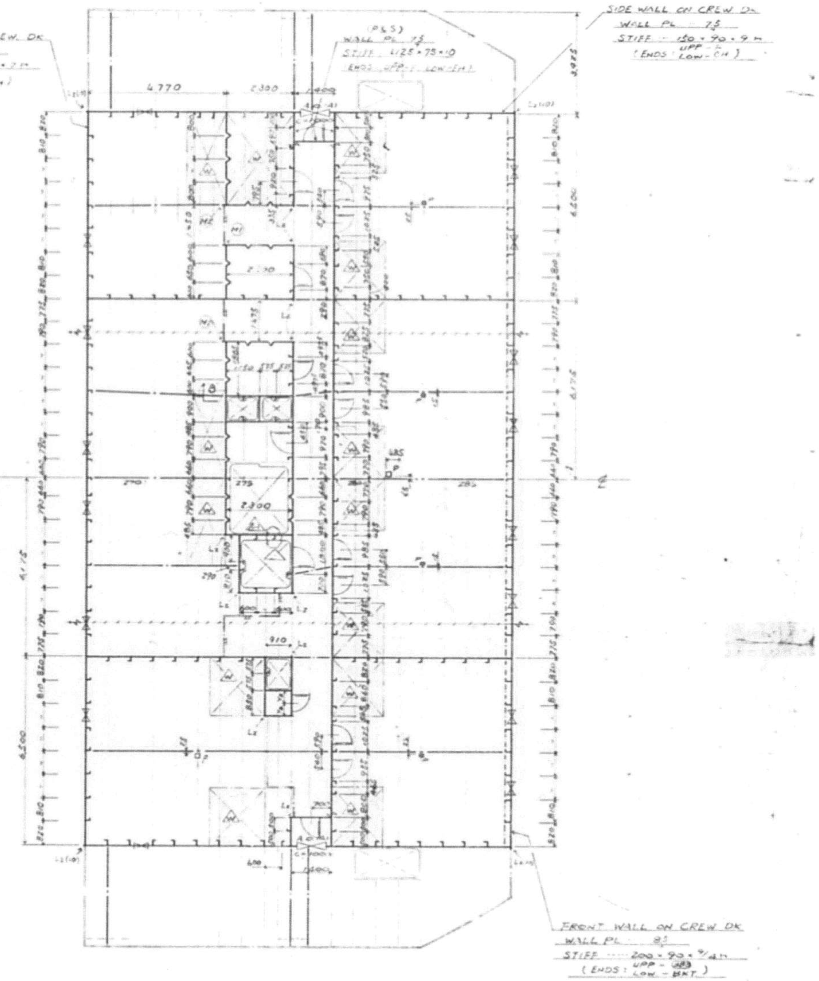
FRAME SPACE 770
DECK BEAM L 100 x 75 x 7 (ENDS CLIP)
GIR. & WEB BM. "X" MARK - WEB 450 x 10 F.B 200 x 16 (U), NO MARK - CT 248 x 199 x 9/14 (L)

DET.
OTHERS SIMI. TO THIS



CREW DECK WALL PLAN

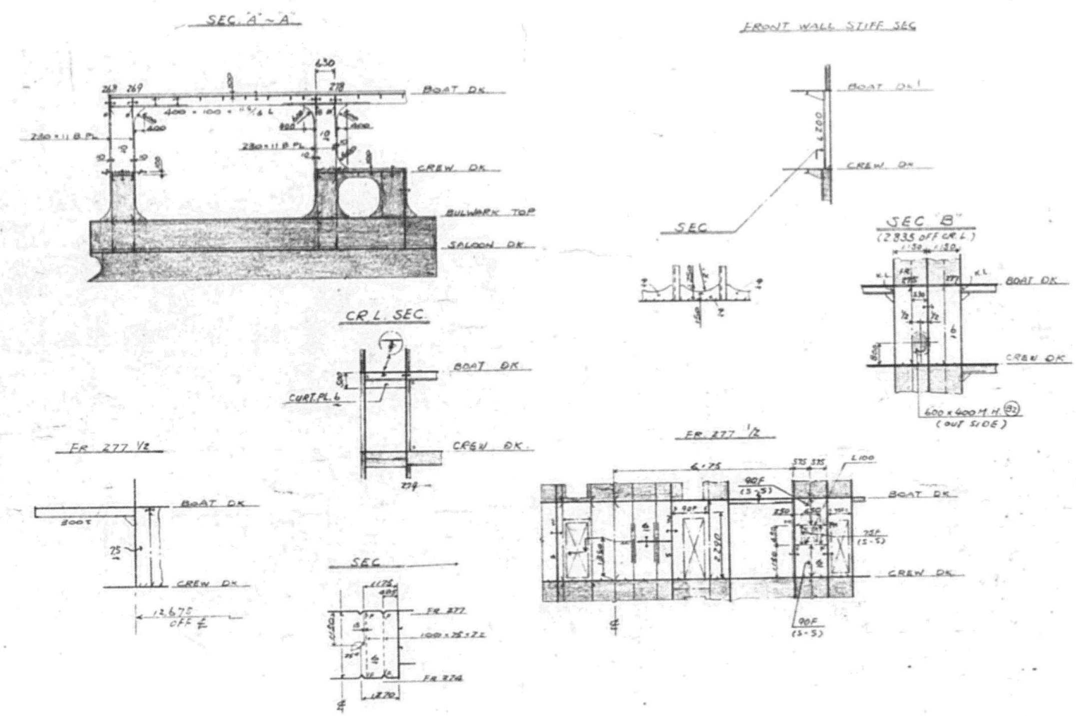
INN. WALL PL 6 (EXCEPT SPECIFIED)
STIFF. 100 x 75 x 7 (ENDS: UPP-F LOW-F) OR 90 FL (ENDS CLIP)



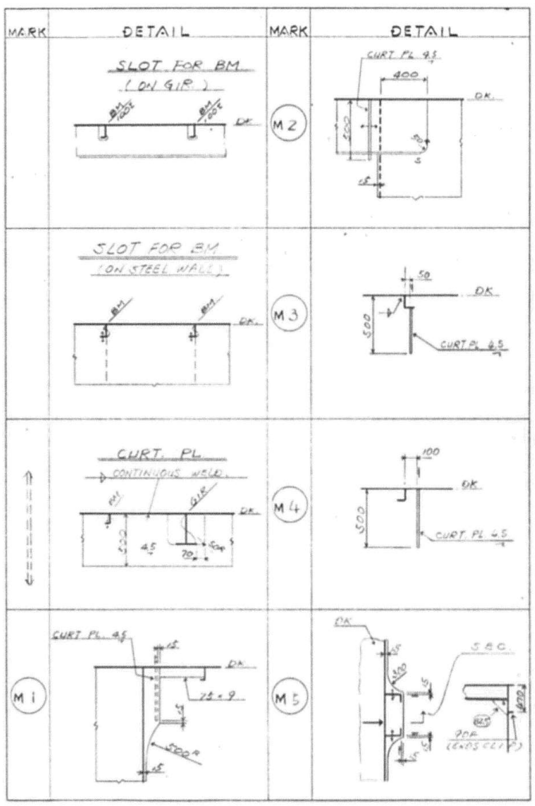
PILLAR 90 x 90 x 10 D

2105413-3/

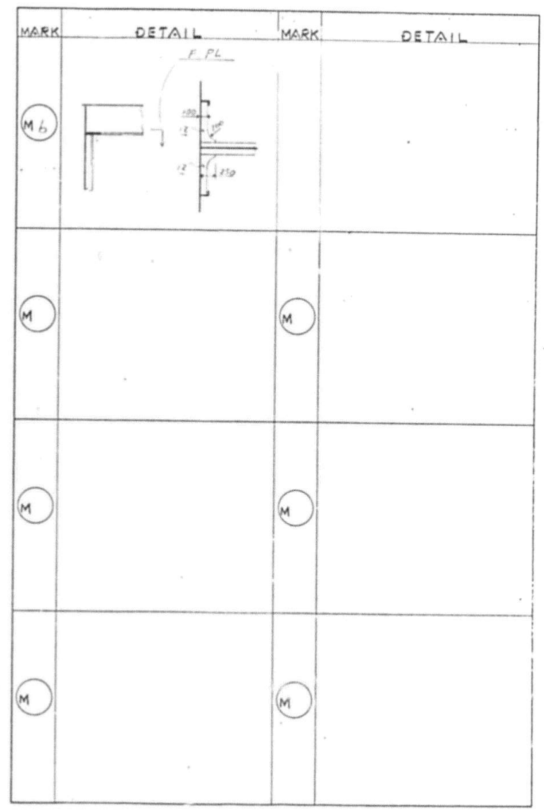
373


SEC. "A"~A
FRONT WALL STIFF SEC
BOAT DK
CREW DK
BULWARK TOP
SALOON DK
SEC
SEC "B"
CR.L. SEC
CURT.PL. 6
FR. 277 1/2
FR. 277 1/2
SEC
2105413 - 4/

374



2105413 – 5/



2105413 – 6/6

375

APPROVAL OF OWNER & REGULATORY BODIES								
ALT.NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	[illegible]	[illegible]			30AUG'86	T-8-2		
1ST.REV	22AUG'86	OFTS/MES-886			9OCT'86	T-8-2		

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC.CHIEF

SHIP'S NO. **1325** SHIP'S NAME **TILLIE LYKES**

居住区構造
ACCOMMODATION CONSTRUCTION
PASSENGER DECK (改)

DATE (TEL 2230)
JOB NO. TS1323/24/25
JOBCLASSIF.NO. 605
SCALE 1/100
LYKES REF. NO. 111604
MITSUI DRAWING NO. 2105414
(7 SHEETS WITH COVER)

PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO. 1324 AND S.NO 1325."	NOV.28 '86

DWG.NO. 2105414-1/

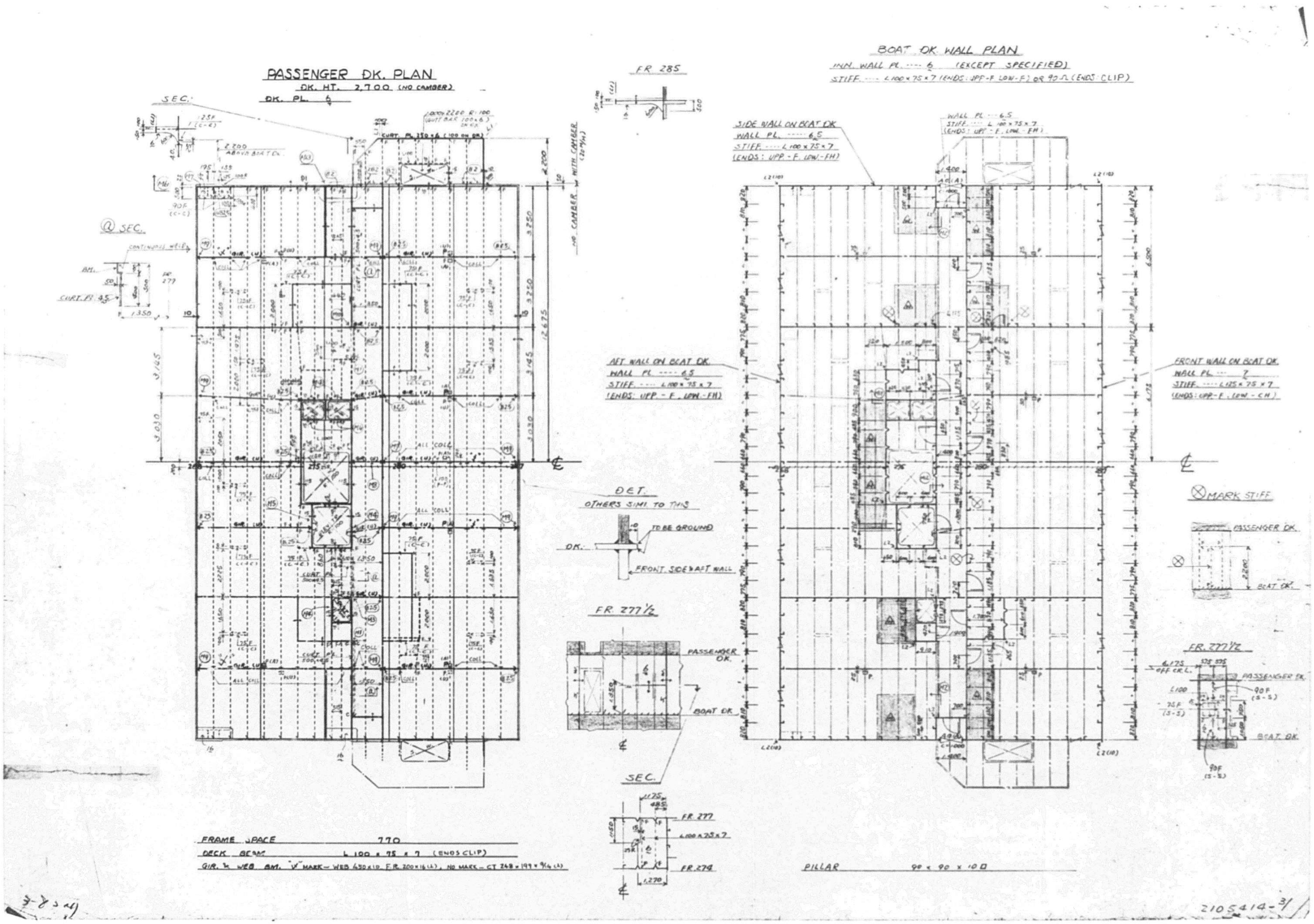
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
   ⚠ MARK SHOWS THE WETTED SPACE AND CONTINUOUS WELD TO BE APPLIED.
5. DECK HEIGHT .... 2,700 M/M (AT CR. LINE)
6. DECK CAMBER SEE P. 3/

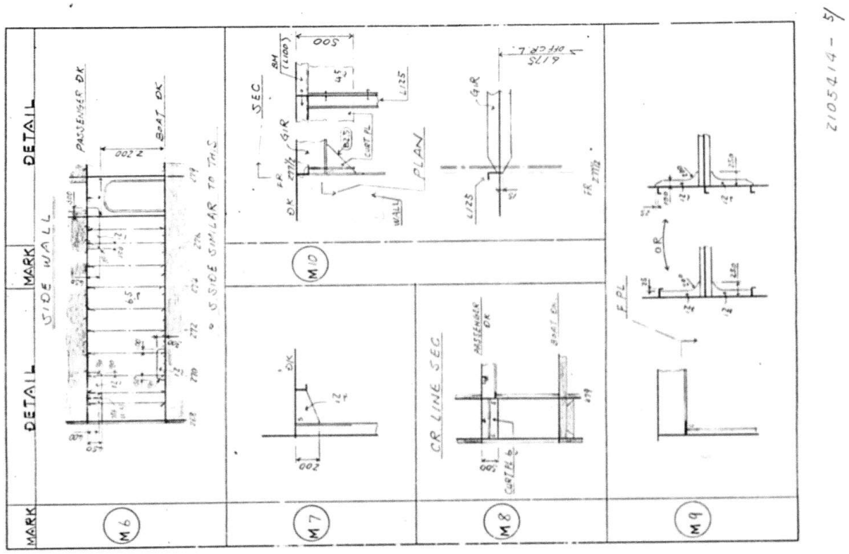
備考:-

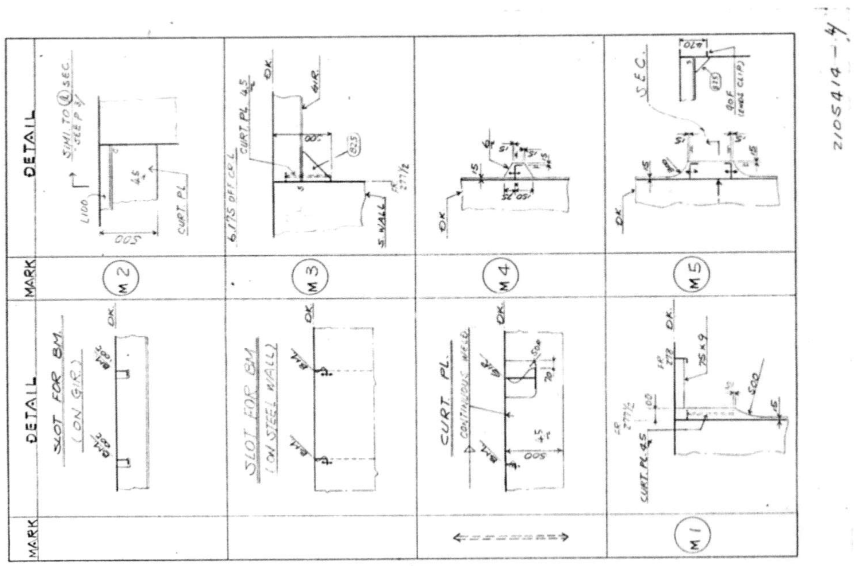
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は'構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は'溶接脚長表（図番2100832）'を参照のこと。
   ⚠ 印は湿気区画を示し，連続溶接を適用する。
5. デッキ高さ ……… 2,700 M/M （船体中心線にて）
6. デッキキャンバー SEE P. 3/

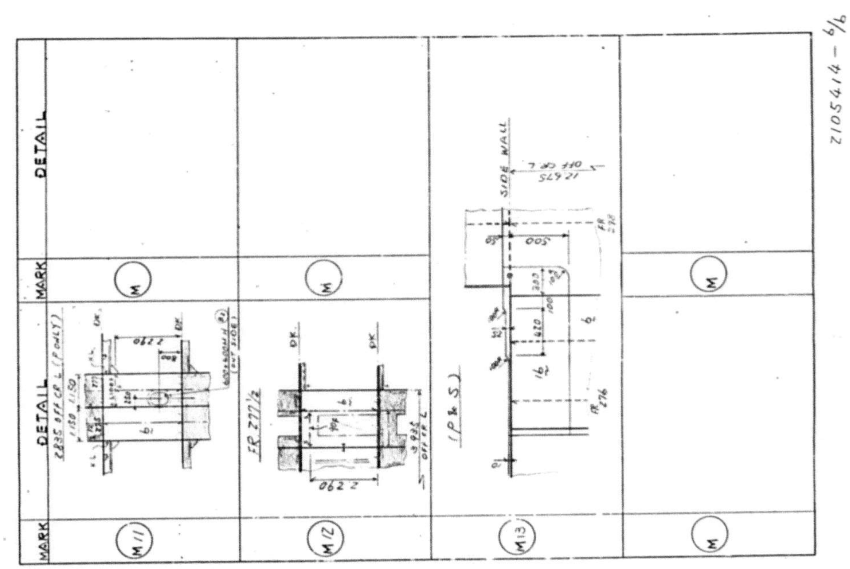
2105414-2/


PASSENGER DK. PLAN
DK. HT. 2,700 (NO CAMBER)
DK. PL. 6
BOAT DK. WALL PLAN
FR. 285
SIDE WALL ON BOAT DK
AFT WALL ON BOAT DK.
FRONT WALL ON BOAT DK.
DET.
OTHERS SIMI. TO THIS
TO BE GROUND
FRONT SIDE & AFT WALL
FR. 277½
PASSENGER DK.
BOAT DK.
SEC.
FR. 277
FR. 274
⊗ MARK STIFF.
FRAME SPACE 770
DECK BEAM L 100 × 75 × 7 (ENDS CLIP)
PILLAR 90 × 90 × 10 □
2105414-3/

377







378

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	DATE	LETTER NO.
ORIGINAL	[illegible]	[illegible]			[illegible]	[illegible]		
1st REV.	[illegible]	[illegible]			[illegible]	[illegible]		

FINISHED PLAN

This drawing/document was produced by Mitsui Engineering & Shipbuilding Co., Ltd (MES) You are kindly requested to handle it in strict confidence and it is prohibited to copy or reproduce it to any third party without written permission of both MES & Lykes Bros. Steamship Co., Inc.

SHIPYARD AND SHIP'S NO. & NAME

MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1161	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP'S NO. 1325 — TILLIE LYKES

居住区構造
ACCOMMODATION CONSTRUCTION

SCALE 1/50

DRAWING NO. 111605 — 2105415

STRUCTURE DESIGN SEC.

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"ORIGINAL FOR FINISHED PLAN" [illegible]	[illegible]

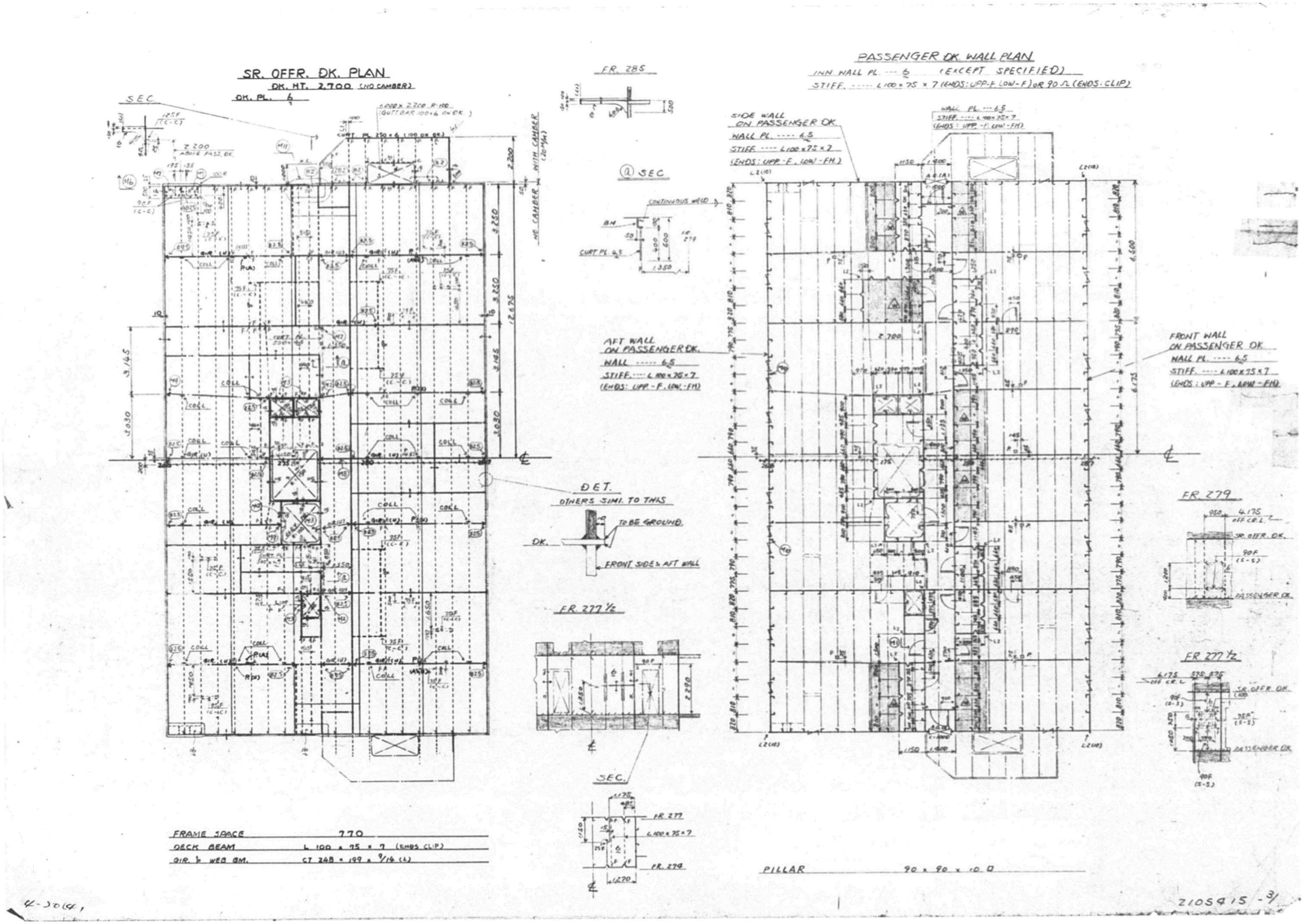
DWG. NO. 2105415 - 1/1

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG. NO. 3188811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG. NO. 3188833)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
   ▲ MARK SHOWS THE WETTED SPACE AND CONTINUOUS WELD TO BE APPLIED.
5. DECK HEIGHT .... [illegible] (AT CR. LINE)
6. DECK CAMBER [illegible]

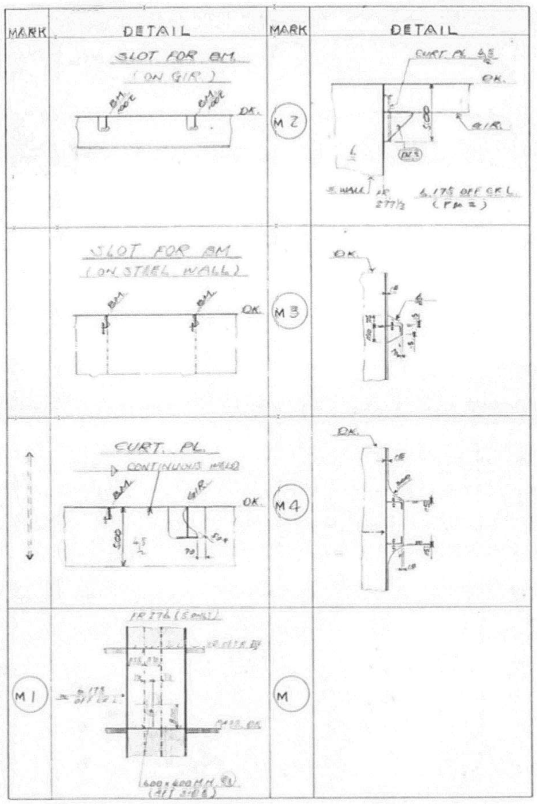
備 考:-

1. 特記なき限り、両舷対称とする。
2. 横断面図は、特記なき限り前向きを示す。
3. 構造詳細については、特記なき限り「構造詳細図(図番3188811)」を参照のこと。
4. 溶接脚長については、特記なき限り「溶接脚長表(図番3188833)」を参照のこと。
   ▲印は接水区画を示し、連続溶接を適用する。
5. デッキ高さ ...... [illegible] (船体中心線にて)
6. デッキキャンバー [illegible]

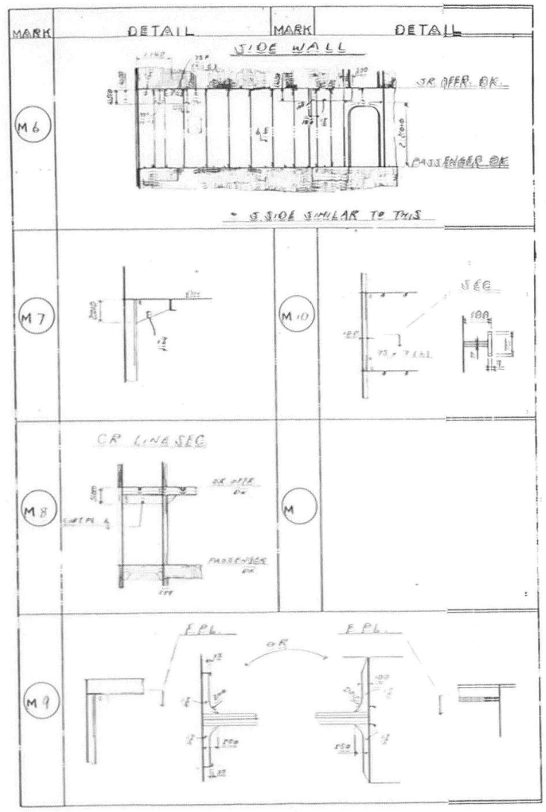


SR. OFFR. DK. PLAN
DK. HT. 2,700 (NO CAMBER)
DK. PL. 6
FR. 285
@ SEC.
PASSENGER DK. WALL PLAN
INN. WALL PL. --- 6 (EXCEPT SPECIFIED)
SIDE WALL ON PASSENGER DK.
WALL PL. ---- 6.5
STIFF. ---- L100×75×7
AFT WALL ON PASSENGER DK.
WALL ---- 6.5
STIFF. ---- L100×75×7
(ENDS: UPP-F, LOW-FH)
FRONT WALL ON PASSENGER DK
WALL PL. ---- 6.5
STIFF. ---- L100×75×7
(ENDS: UPP-F, LOW-FH)
DET.
OTHERS SIMI. TO THIS
TO BE GROUND
DK.
FRONT SIDE & AFT WALL
FR. 277½
FR. 279
SR. OFFR. DK.
PASSENGER DK.
SEC.
FRAME SPACE 770
DECK BEAM L 100 × 75 × 7 (ENDS CLIP)
GIR. & WEB BM. CT 248 × 199 × 9/14 (L)
PILLAR 90 × 90 × 10 □
210S415-31

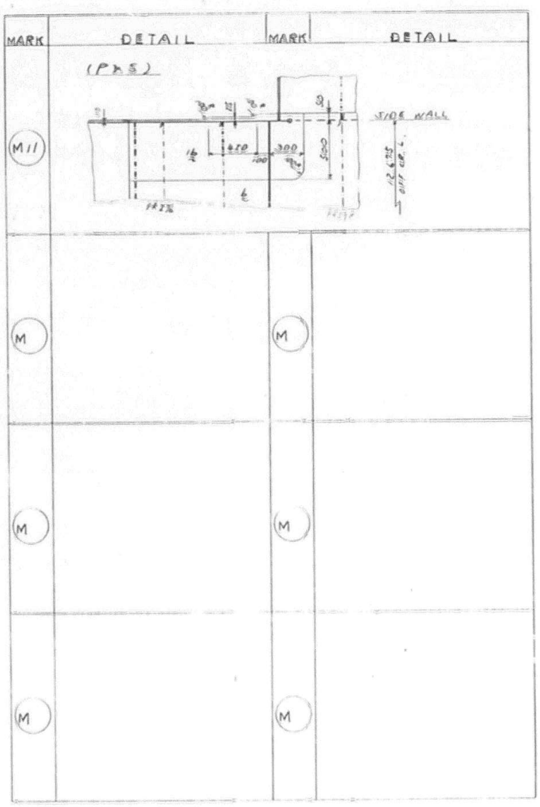
380



Z105415-4/



Z105415-5/



Z105415-6/6

381

ALT.NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	6 AUG '86	OFTY/MES-911			10 AUG '86	T-9-2		
1ST PART REV	14 NOV '86	TAH 116			19 DEC '86	T-9-2		
2ND PART REV	24 NOV '86	TAH 127			19 DEC '86	T-9-2		

APPROVAL OF OWNER & REGULATORY BODIES

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME

MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER
STRUCTURE DESIGN SEC.
SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

居住区構造
ACCOMMODATION CONSTRUCTION
NAV BRIDGE DECK

DATE (TEL 22301)
JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 111606 — MITSUI DRAWING NO. 2105416 R
JCBCLASSIF.NO. B05
(7 SHEETS WITH COVER)

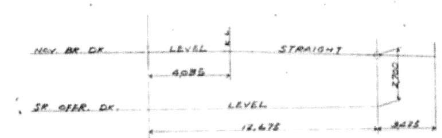
PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, CHANGED AS FOLLOWS.	NOV. 28.'86
		△ CARLINGS FITTED TO DECK PLATES. (ANTI STRAIN FOR DECK PLATES)	
		MADE APPLICABLE TO S.NO.1325."	

DWG.NO. 2105416 - 1/

NOTES:-

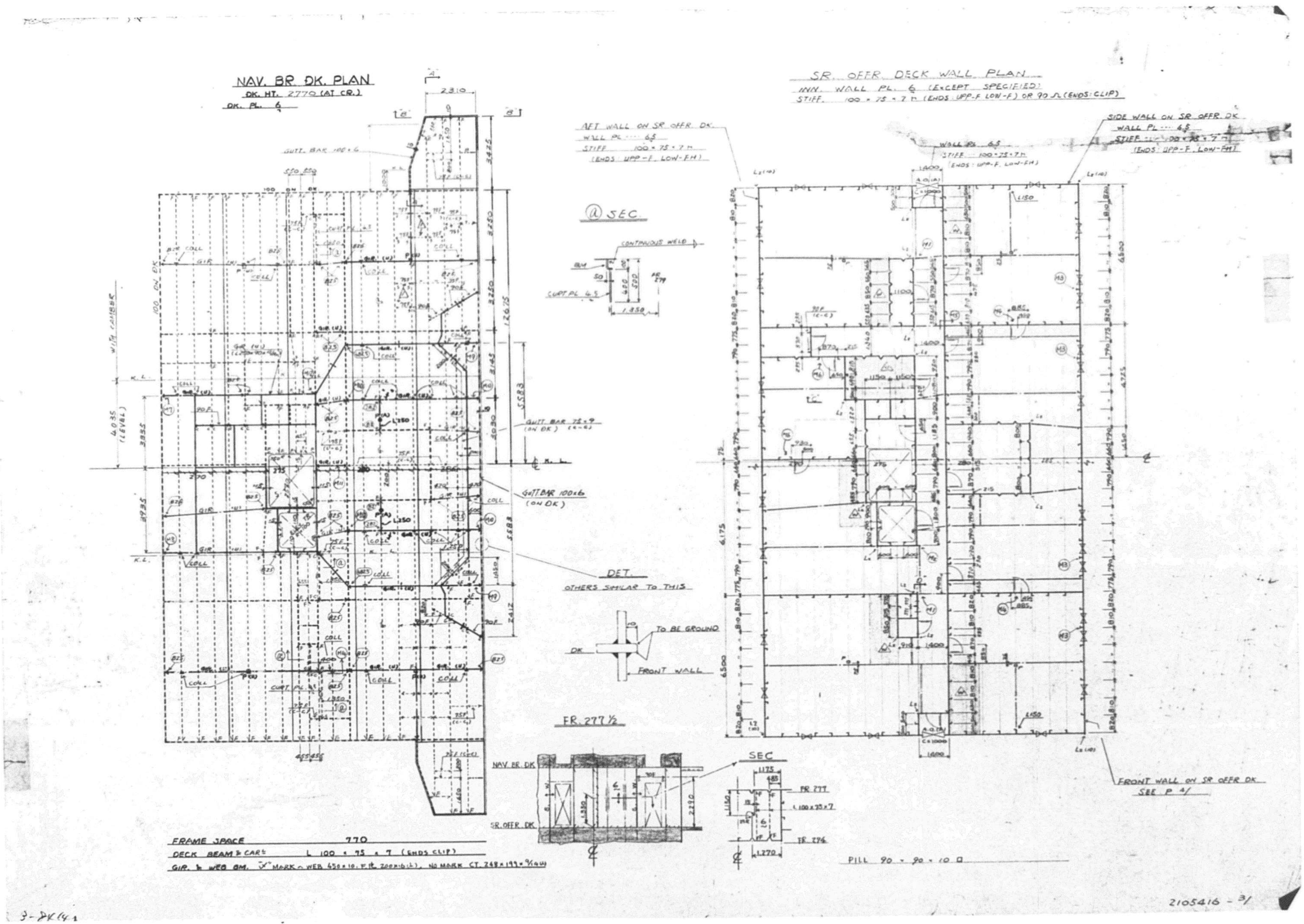
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
   △ MARK SHOWS THE WETTED SPACE AND CONTINUOUS WELD TO BE APPLIED.
5. DECK HEIGHT .... 2770 (AT CR. LINE)
6. DECK CAMBER



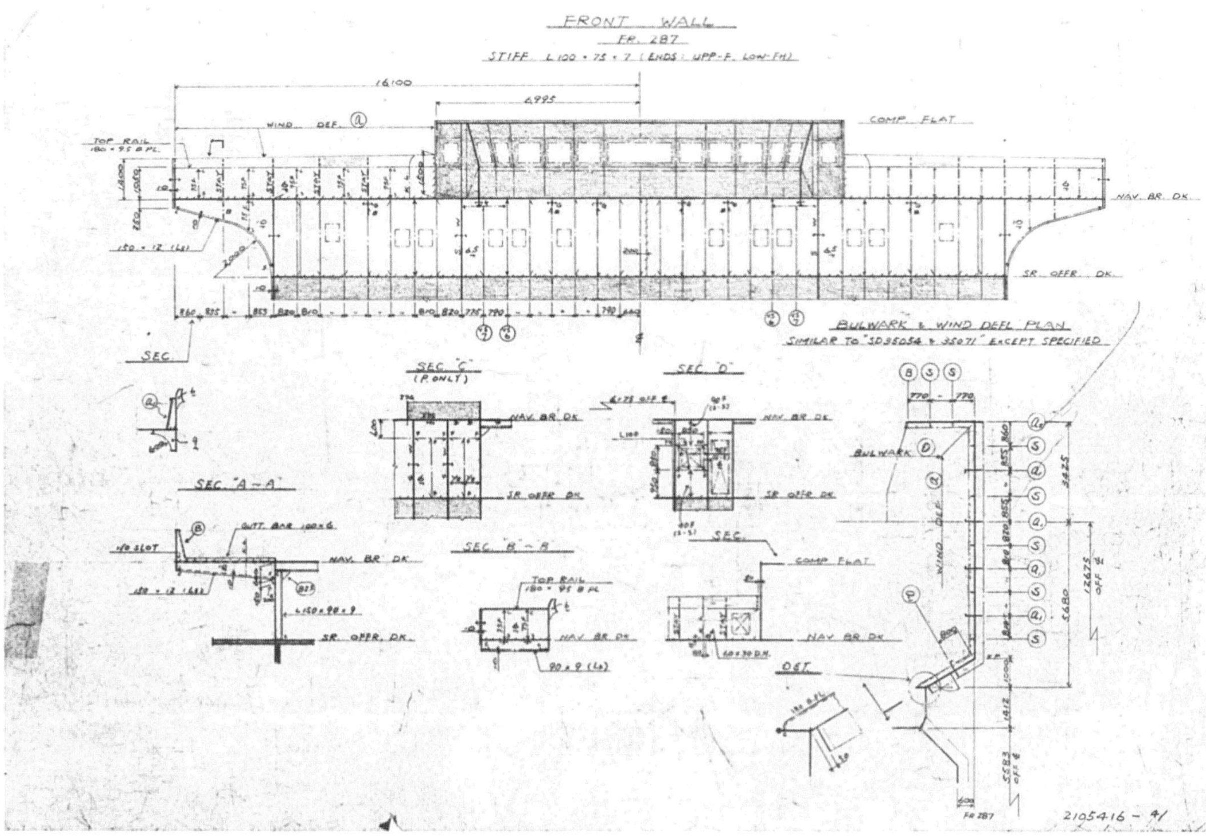
備 考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は '構造詳細図（図番 2100811）' を参照のこと。
4. 溶接脚長については，特記の他は '溶接脚長表（図番 2100832）' を参照のこと。
   △ 印は湿気区画を示し，連続溶接を適用する。
5. デッキ高さ .... 2770 （船体中心線にて）
6. デッキキャンバー 上記に依る

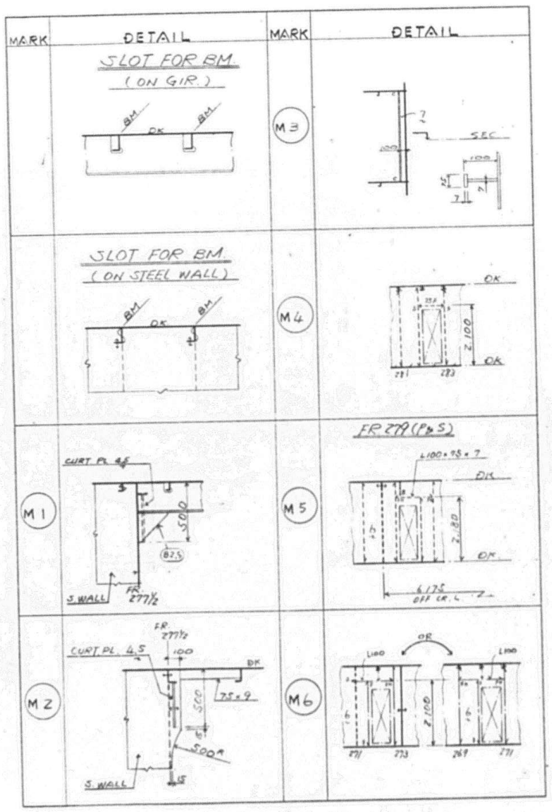
2105416 - 2/


NAV. BR. DK. PLAN
DK. HT. 2770 (AT CR.)
DK. PL. 6
SR. OFFR. DECK WALL PLAN
INN. WALL PL. 6 (EXCEPT SPECIFIED)
STIFF. 100 × 75 × 7 ∟ (ENDS: UPP-F LOW-F) OR 90 ∟ (ENDS: CLIP)
AFT WALL ON SR. OFFR. DK.
SIDE WALL ON SR. OFFR. DK.
Ⓐ SEC.
CONTINUOUS WELD
DET.
OTHERS SIMILAR TO THIS
TO BE GROUND
FRONT WALL
FR. 277½
NAV. BR. DK.
SR. OFFR. DK.
SEC.
FRONT WALL ON SR. OFFR. DK
SEE P. 4/
FRAME SPACE 770
DECK BEAM & CARL. L 100 × 75 × 7 (ENDS CLIP)
PILL. 90 × 90 × 10 □
2105416 - 3/

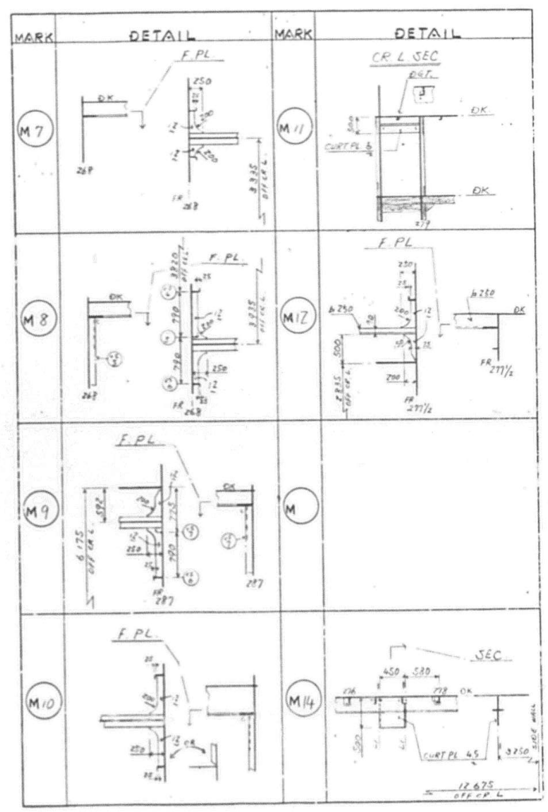
383



FRONT WALL
FR. 287
STIFF. L 100 × 75 × 7 (ENDS : UPP-F, LOW-FH)
16100
6995
WIND DEF.
TOP RAIL
180 × 9.5 B.PL
COMP. FLAT
NAV. BR. DK.
SR. OFFR. DK.
SEC.
BULWARK & WIND DEFL. PLAN
SIMILAR TO "SD35054 & 35071" EXCEPT SPECIFIED
SEC. "C"
(P. ONLY)
SEC. "D"
SEC. "A-A"
GUTT. BAR 100 × 6
SEC. "B-B"
TOP RAIL
180 × 9.5 B.PL
SEC.
BULWARK
DET.
3425
5680
12675
2105416 - 41



2105416 - 5/



2105416 - 6/6

385

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
— F	—	PREPARED AS FINISHED PLAN FOR S.No 1158	MAR 11 '87	

SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION	
	APPROVED / CHECKED / DRAWN / SCALE	CLASS ABS — 居住区構造 ACCOMMODATION CONSTRUCTION NAV. BRIDGE DECK (6/7)
	ORDER 01-15800 ~~01-15900~~ ~~01-16400~~	DRAWING NO.(MHI) HS-60460-F — LYKES REF. NO 111606

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

APPROVAL OF OWNER & REGULATORY BODIES

ALT.NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL								

SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
~~NO.1323~~	~~DOCTOR LYKES~~	NO.1158	JAMES LYKES
~~NO.1324~~	~~ALMERIA LYKES~~	~~NO.1159~~	~~JOSEPH LYKES~~
~~NO.1325~~	~~TILLIE LYKES~~	~~NO.1164~~	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER / STRUCTURE DESIGN SEC. / SEC. CHIEF / ASSIST. CHIEF / CHARGE ENG'R / STAFF

SHIP'S NO. ~~1325~~ SHIP'S NAME ~~TILLIE LYKES~~

居住区構造
ACCOMMODATION CONSTRUCTION
NAV. BRIDGE DECK (6/7)

DATE (TEL 22301)
JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 111606 — MITSUI DRAWING NO. 2105416 R
JOB CLASSIF. NO. 805
(7 SHEETS WITH COVER)

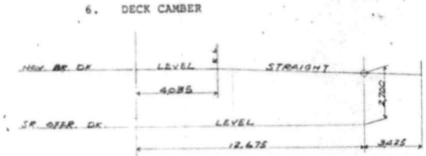
PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, CHANGED AS FOLLOWS.	NOV. 28.'86
		(1) ····· CARLINGS FITTED TO DECK PLATES.	
		(ANTI STRAIN FOR DECK PLATES)	
		MADE APPLICABLE TO S.NO.1325."	

DWG.NO. 2105416 - 1/

NOTES:-

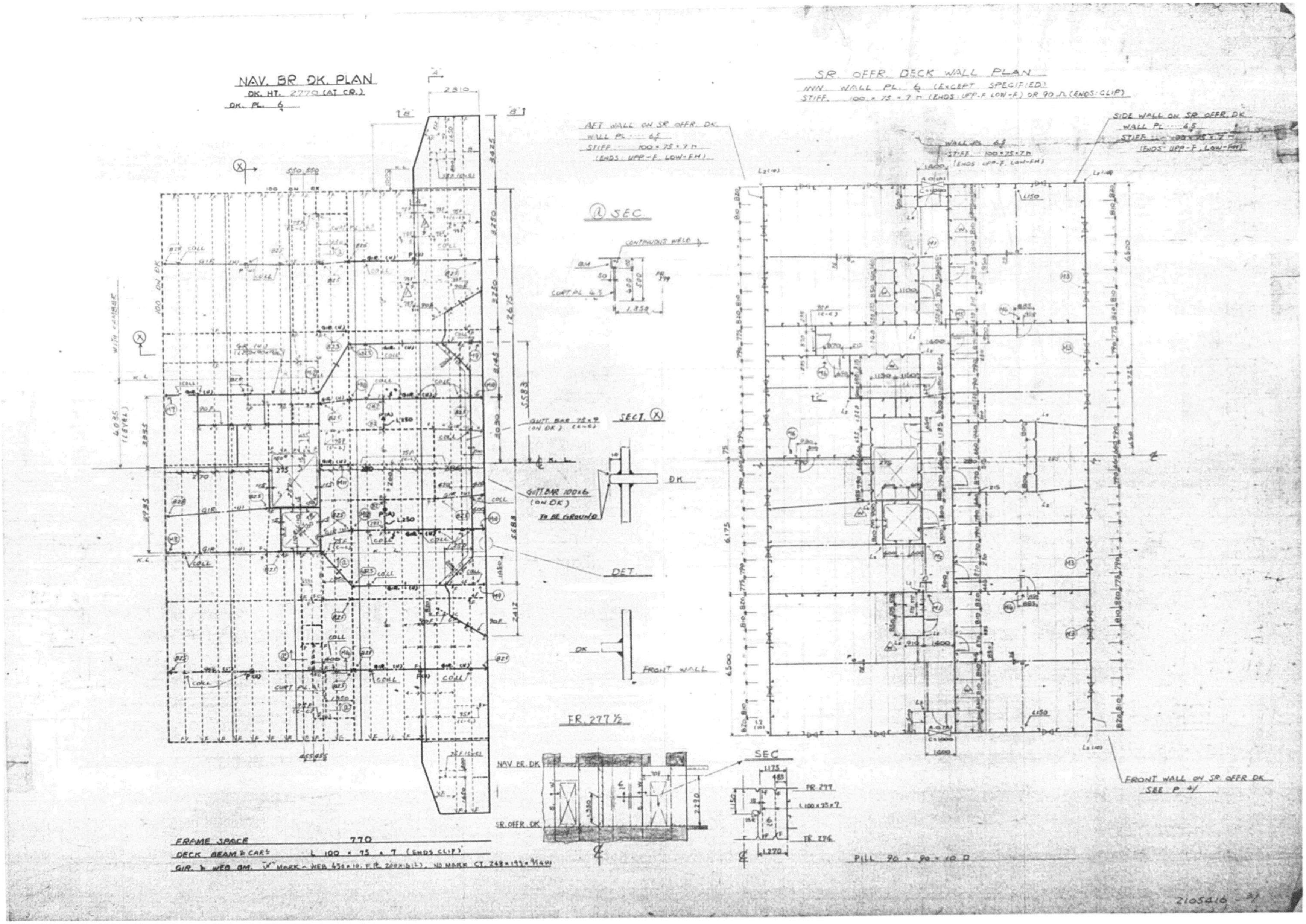
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
   MARK SHOWS THE WETTED SPACE AND CONTINUOUS WELD TO BE APPLIED.
5. DECK HEIGHT ········ 2,770 (AT CR. LINE)
6. DECK CAMBER



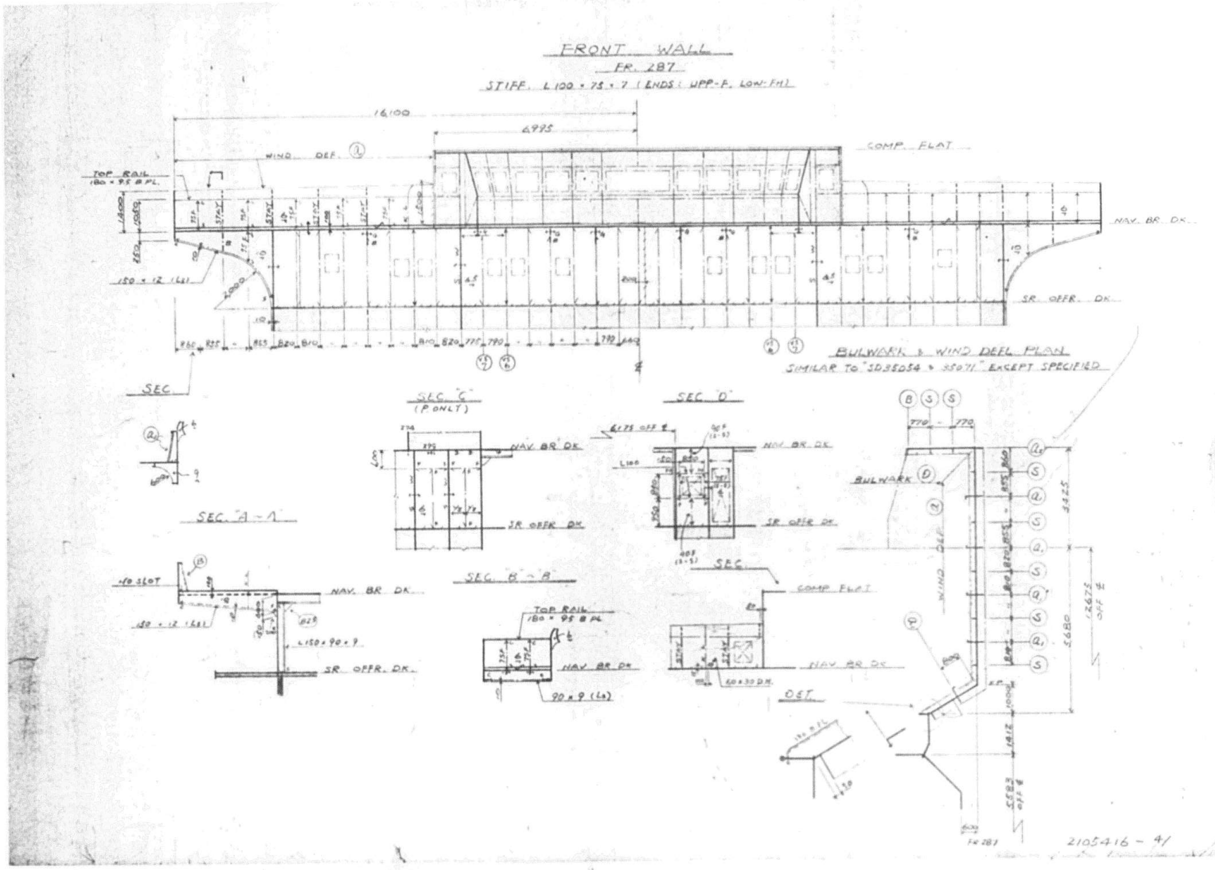
備考:-

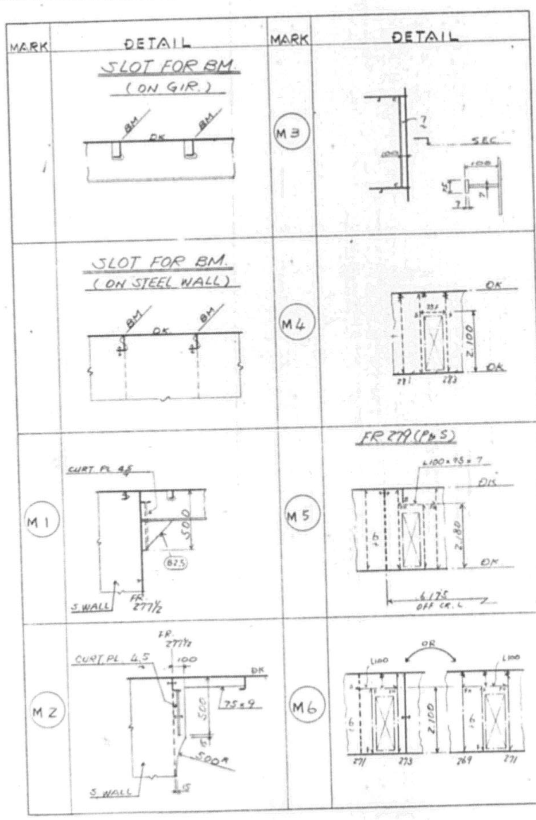
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
   "構造詳細図（図番2100811）"を参照のこと。
4. 溶接脚長については，特記の他は
   "溶接脚長表（図番2100832）"を参照のこと。
   印は浸水区画を示し，連続溶接を適用する。
5. デッキ高さ ········ 2,770 （船体中心線にて）
6. デッキキャンバー 上記に依る

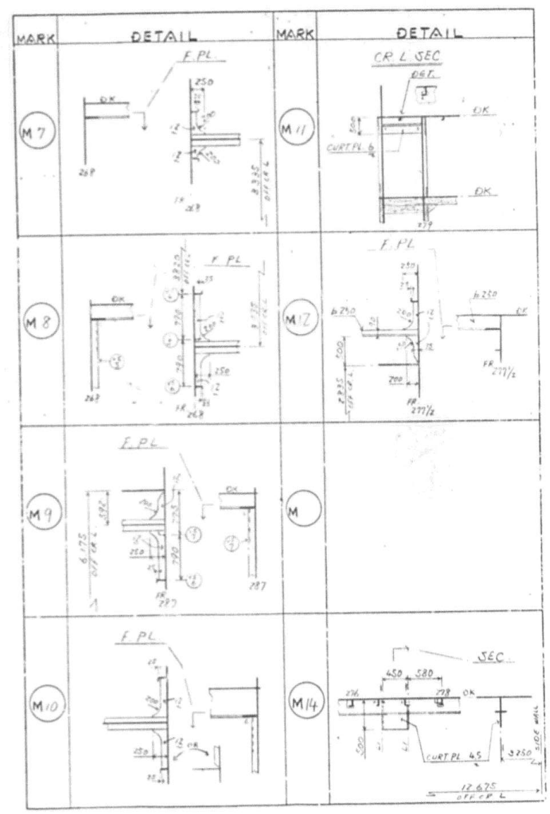
2105416 - 2/


NAV. BR. DK. PLAN
DK. HT. 2770 (AT CR.)
DK. PL. 6
SR. OFFR. DECK WALL PLAN
MIN. WALL PL. 6 (EXCEPT SPECIFIED)
STIFF. 100 × 75 × 7 ⊓ (ENDS UPP-F LOW-F) OR 90 ⊓ (ENDS CLIP)
AFT WALL ON SR. OFFR. DK.
WALL PL. 4.5
STIFF. 100 × 75 × 7 ⊓
(ENDS UPP-F, LOW-FH)
SIDE WALL ON SR. OFFR. DK.
WALL PL. 4.5
ⓐ SEC
CONTINUOUS WELD
SECT. ⓧ
DK
GUTT BAR 75 × 9 (ON DK)
GUTT BAR 100 × 6 (ON DK)
TO BE GROUND
DET.
FRONT WALL
FR. 277½
NAV. BR. DK.
SR. OFFR. DK.
SEC
FRONT WALL ON SR. OFFR. DK.
SEE P. 41
FRAME SPACE 770
DECK BEAM & CARL L 100 × 75 × 7 (ENDS CLIP)
GIR. & WEB BM.
PILL. 90 × 90 × 10 D
2105416 - 31

387


FRONT WALL
FR. 287
STIFF. L100 × 75 × 7 (ENDS: UPP-F, LOW-FH)
16,100
6995
WIND DEF.
COMP. FLAT
TOP RAIL 180 × 95 B PL
NAV. BR. DK.
SR. OFFR. DK.
BULWARK & WIND DEFL PLAN
SIMILAR TO "SD35054 & 35071" EXCEPT SPECIFIED
SEC
SEC. "A - A"
SEC. "C" (P. ONLY)
SEC. "B - B"
SEC. "D"
BULWARK
DET.
2105416 - 4/


MARK
DETAIL
SLOT FOR BM. (ON GIR.)
SLOT FOR BM. (ON STEEL WALL)
M1
M2
M3
M4
M5
M6
FR. 279 (P & S)
CURT. PL 4.5
S. WALL
2105416 - 5/


MARK
DETAIL
M7
M8
M9
M10
M11
M12
M
M14
F. PL
CR. L SEC
SEC
2105416 - 6/6

APPROVAL OF OWNER & REGULATORY BODIES								
ALT.NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	7AUG'86	OFFS/MES-833			30AUG'86	T-9->		
1ST PART.REV	11MAR'86	TAH/115						

FINISHED PLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER / STRUCTURE DESIGN SEC. / SEC.CHIEF / ASSIST.CHIEF / CHARGE ENG'R / STAFF

DATE (TEL 2230)

SHIP'S NO. 1325 SHIP'S NAME TILLIE LYKES

居住区構造

ACCOMMODATION CONSTRUCTION

HOUSE TOP DECK (2/7)

JOB NO.	SCALE	LYKES REF. NO.	MITSUI DRAWING NO.
TS1323/24/25	1/100	111607	2105417

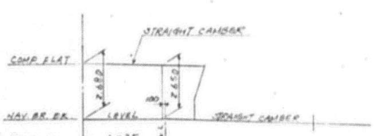
(6 SHEETS WITH COVER)

PLAN RECORD			
ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO. 1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO. 1324 AND S.NO. 1325."	NOV. 28 '86

DWG.NO. 2105417-1

NOTES:-

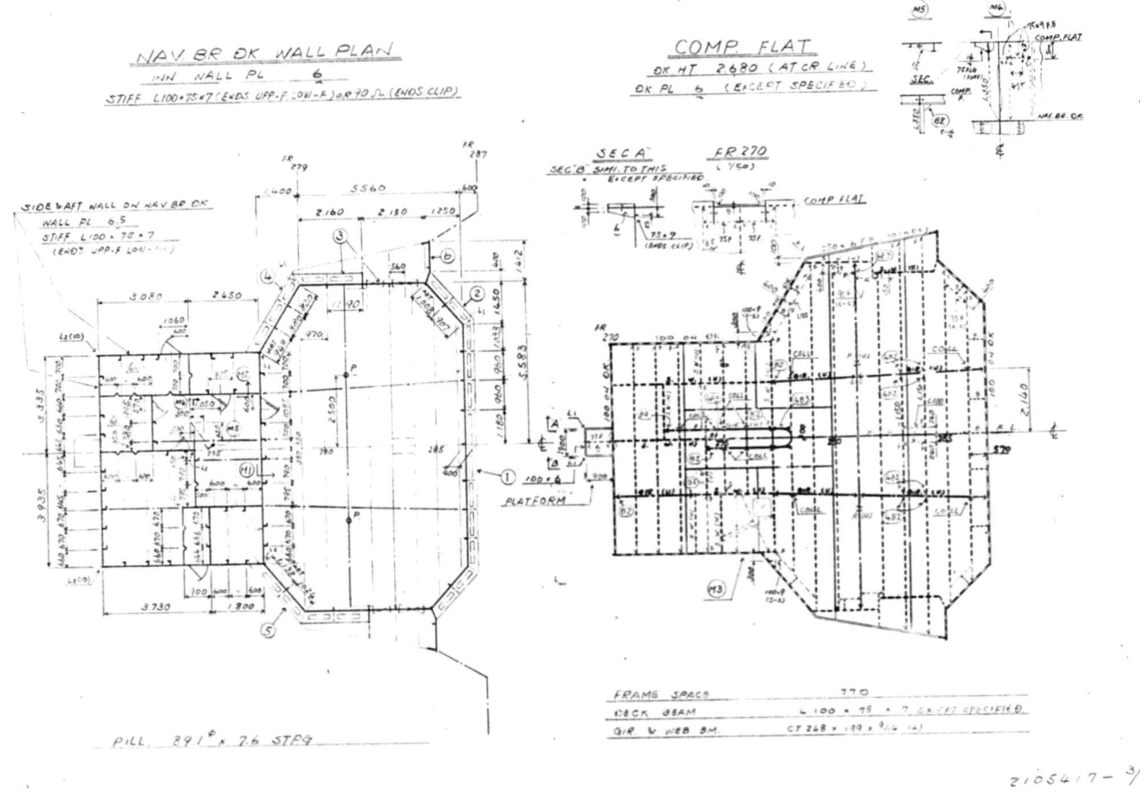
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
   (W) MARK SHOWS THE WETTED SPACE AND CONTINUOUS WELD TO BE APPLIED.
5. DECK HEIGHT .... 2680 (AT CR. LINE)
6. DECK CAMBER

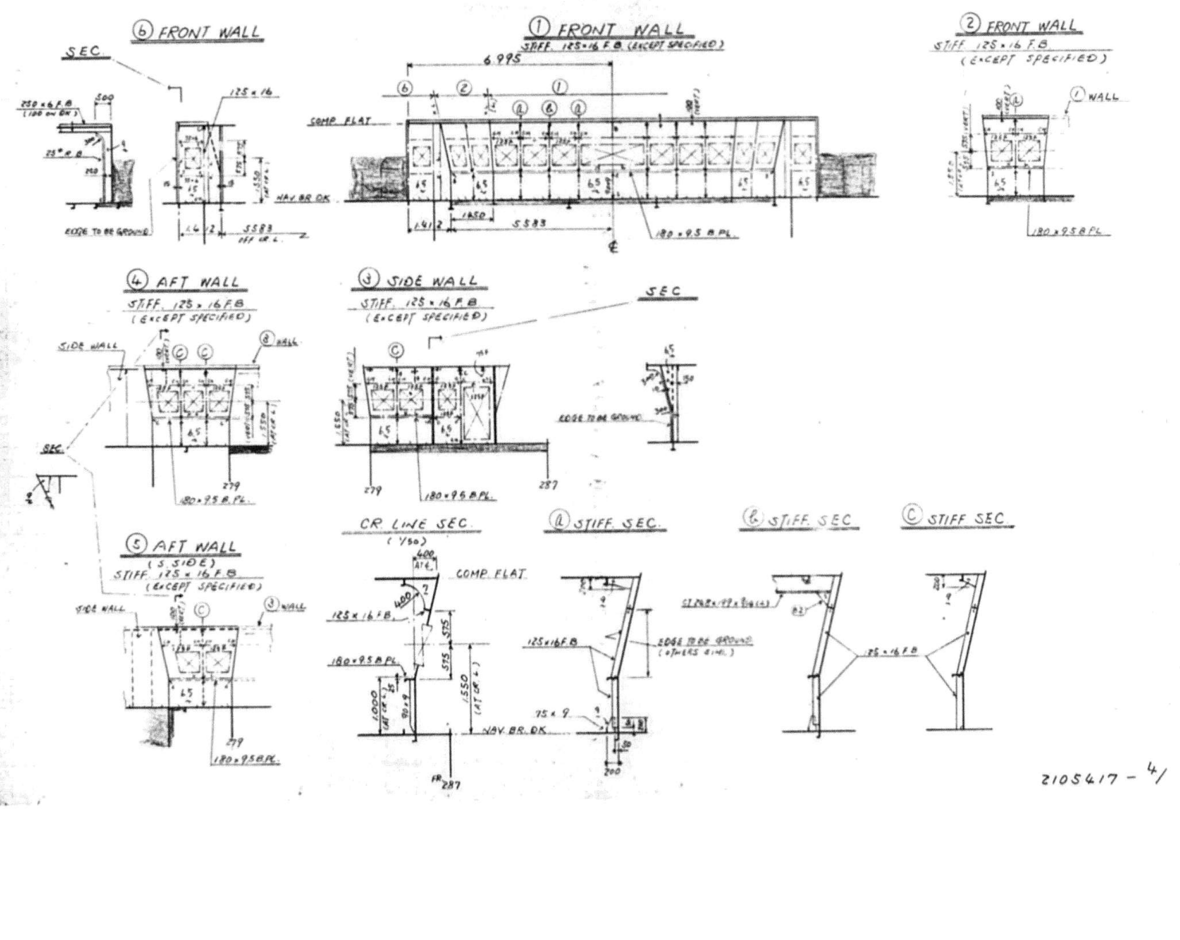


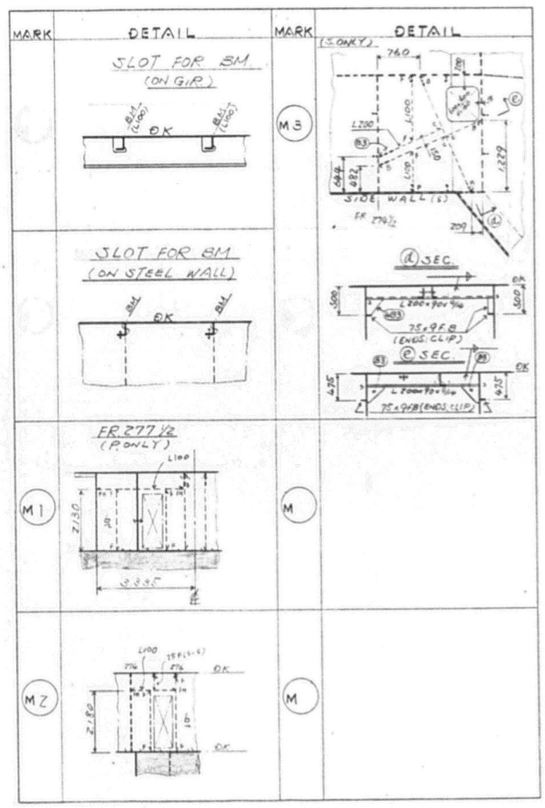
備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
   '構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は
   '溶接脚長表（図番2100832）'を参照のこと。
   (W) 印は湿気区画を示し，連続溶接を適用する。
5. デッキ高さ ……… 2680 （船体中心線にて）
6. デッキキャンバー 上記に依う。

2105417-2/


NAV. BR DK WALL PLAN
INN WALL PL 6
STIFF. L100×75×7 (ENDS UPP-F, LOW-F) OR 90 ⊓ (ENDS CLIP)
COMP. FLAT
DK HT 2680 (AT CR LINE)
DK PL 6 (EXCEPT SPECIFIED)
SEC. A
SEC. B SIMI. TO THIS EXCEPT SPECIFIED
FR 270
COMP FLAT
SIDE & AFT WALL ON NAV. BR. DK
WALL PL 6.5
STIFF L100×75×7
PLATFORM
FRAME SPACE 770
DECK BEAM L100×75×7 EXCEPT SPECIFIED
PILL. 291φ × 7.6 STPG
210S417-3/


⑥ FRONT WALL
SEC.
① FRONT WALL
STIFF. 125×16 F.B. (EXCEPT SPECIFIED)
COMP. FLAT
NAV. BR. DK
180×9.5 B.PL.
EDGE TO BE GROUND
② FRONT WALL
STIFF. 125×16 F.B. (EXCEPT SPECIFIED)
④ AFT WALL
STIFF. 125×16 F.B (EXCEPT SPECIFIED)
③ SIDE WALL
STIFF. 125×16 F.B (EXCEPT SPECIFIED)
SIDE WALL
⑤ AFT WALL
(S. SIDE)
STIFF. 125×16 F.B (EXCEPT SPECIFIED)
CR. LINE SEC.
COMP. FLAT
ⓐ STIFF. SEC.
ⓑ STIFF. SEC.
ⓒ STIFF. SEC.
210S417-4/



MARK
DETAIL
SLOT FOR BM
(ON G.I.R.)
OK
SLOT FOR BM
(ON STEEL WALL)
FR 277 1/2
(P. ONLY)
M1
2130
M2
2180
OK
M3
(S ONLY)
760
SIDE WALL (S)
200
Ⓐ SEC
Ⓒ SEC
500
425
M
M

2105417 – 5/5

APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	9 MAY '86	OFT'S/MES-386			31 JUL '86	T-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER — STRUCTURE DESIGN SEC.

SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

KEY PLAN

居住区及びエンジンケーシング構造

ACCOMMODATION & ENG. CASING CONST.

STAFF — DATE — TEL.

JOB NO.	SCALE	LYKES REF. NO.	MITSUI DRAWING NO.
TS1323/24/25	1/100	111609	2100511

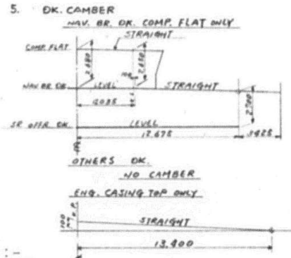
(16 SHEETS WITH COVER)

PLAN RECORD			
ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV. 28. '86

DWG. NO. 2100511-1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
5. DK. CAMBER



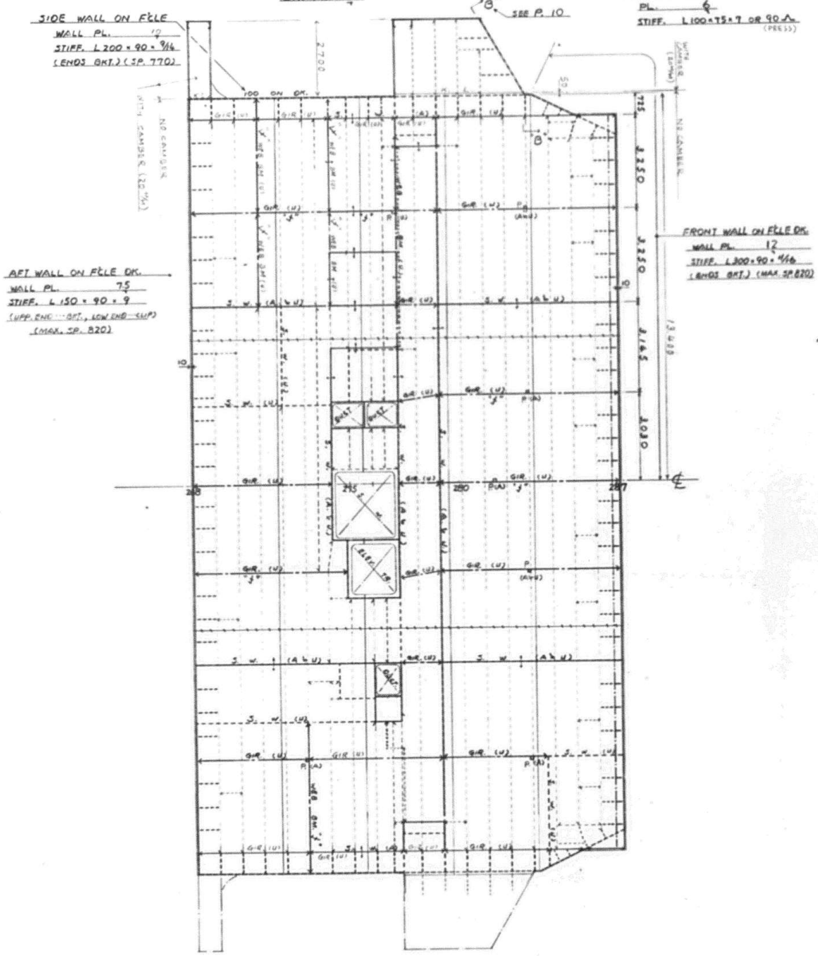
備考：-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は '構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は '溶接脚長表（図番2100832）'を参照のこと。

2100511-2/

CREW DK. PLAN

DK. HT. 2700 (NO CAMBER)
DK. PL. 6

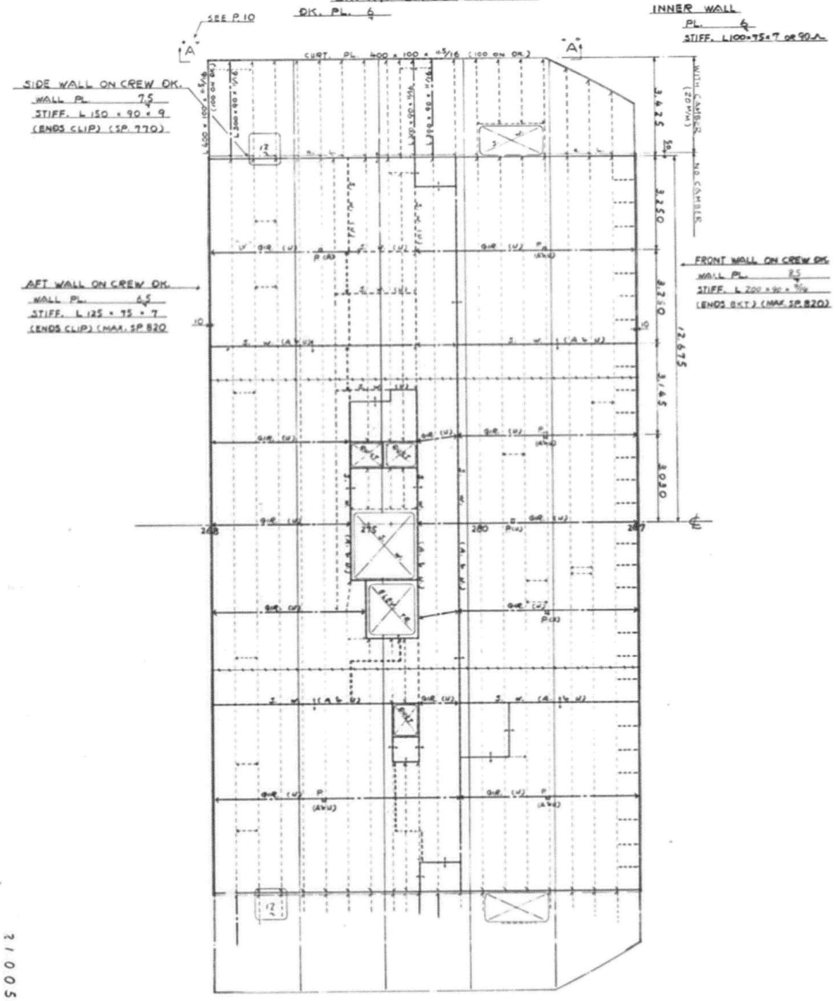


2100511 - 3

FRAME SPACE	770
DECK BEAM	L 100 × 75 × 7 (ENDS CLIP)
GIR. & WEB BM.	"J" MARK ~ WEB 450 × 10, F.PL 200 × 16 (4), NO MARK ~ CT 248 × 199 × 9/16 (4)
PILL.	90 × 90 × 10 ⌀

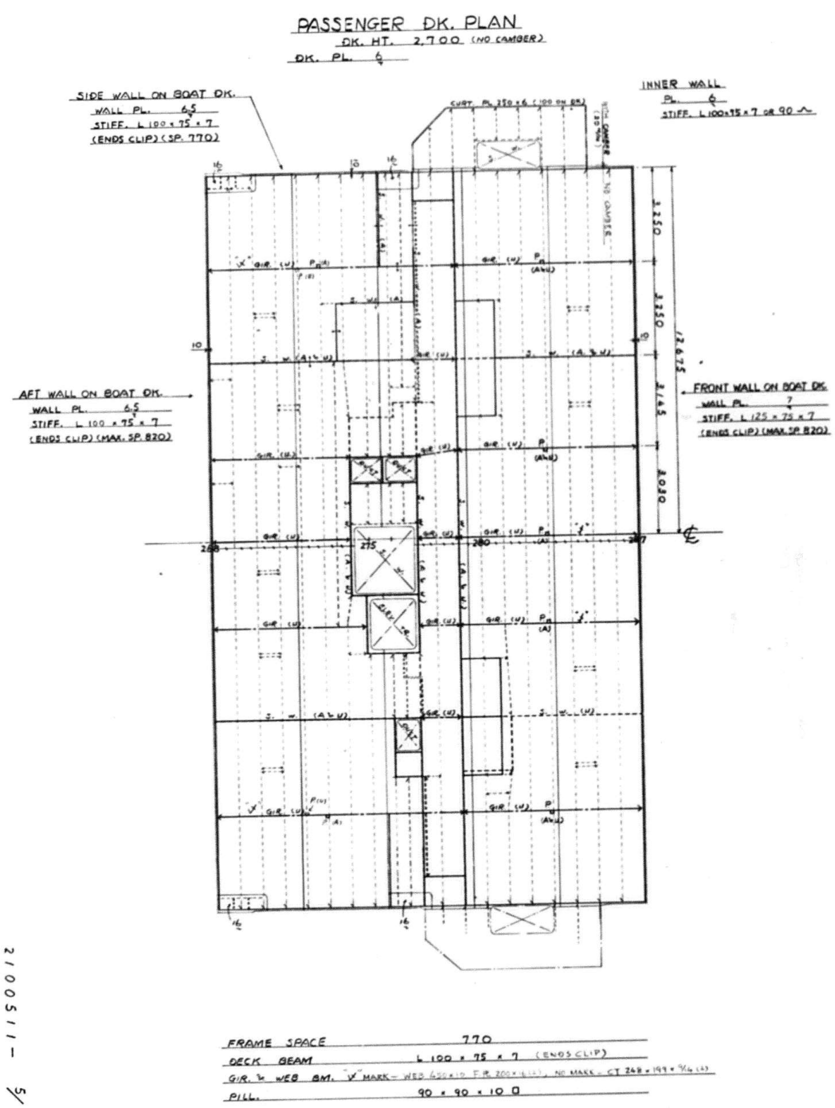
BOAT DK. PLAN

DK. HT. 2700 (NO CAMBER)
DK. PL. 6

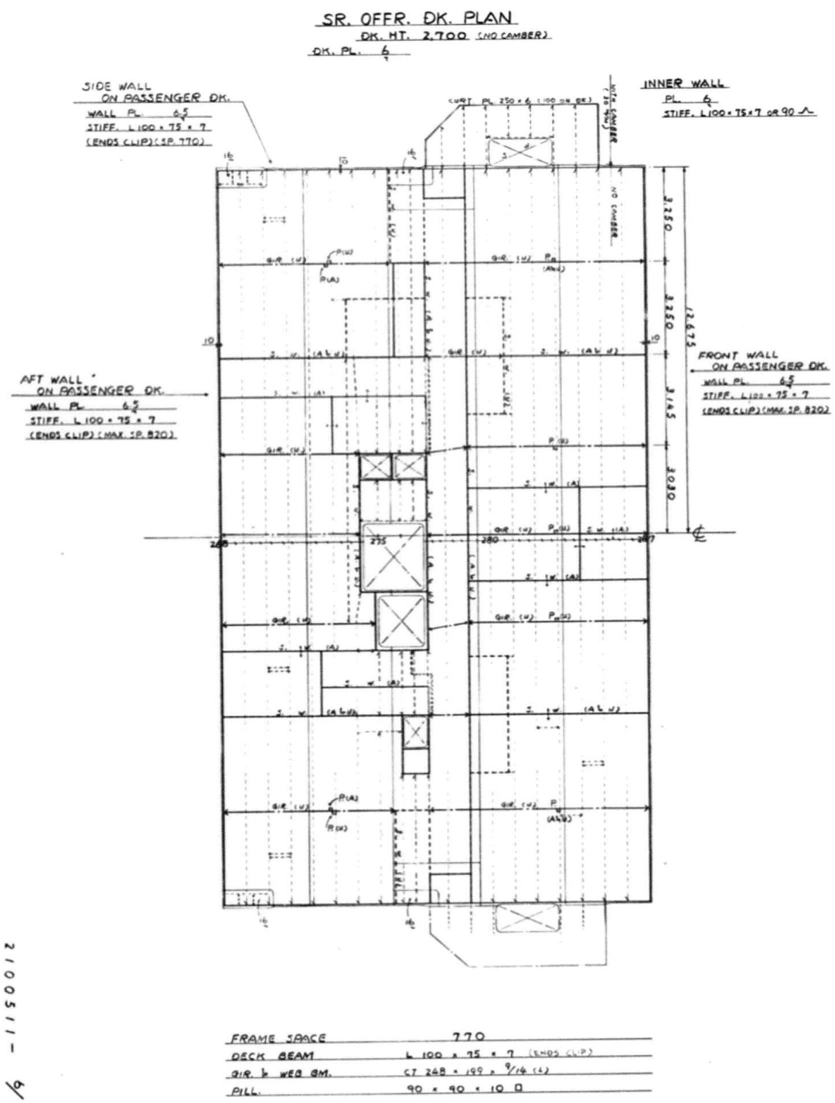


2100511 - 4

FRAME SPACE	770
DECK BEAM	L 100 × 75 × 7 (ENDS CLIP)
GIR. & WEB BM.	"J" MARK ~ WEB 450 × 10, F.PL 200 × 16 (4), NO MARK ~ CT 248 × 199 × 9/16 (4)
PILL.	90 × 90 × 10 ⌀

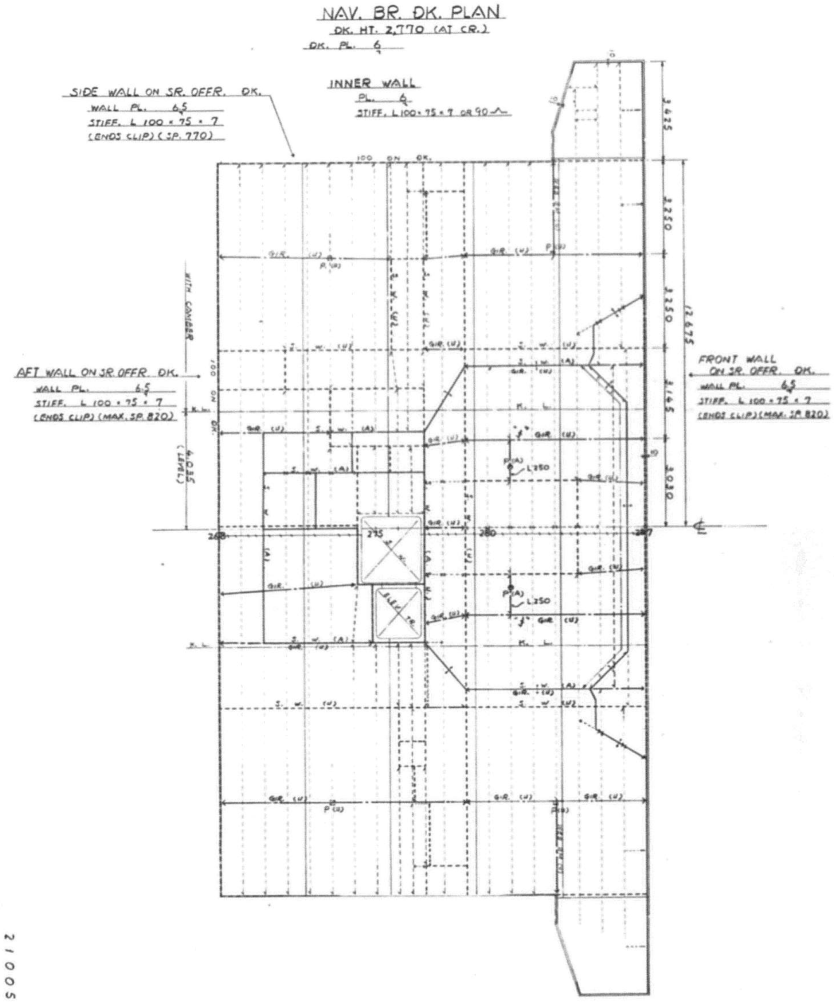


2100511 – 5



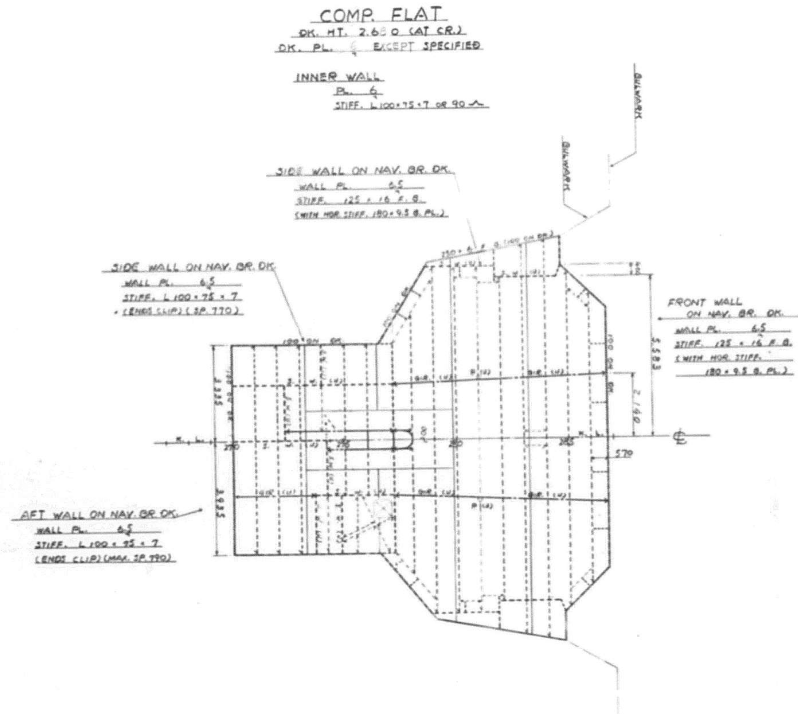
2100511 – 6

394



FRAME SPACE	770
DECK BEAM	L 100 × 75 × 7 (ENDS CLIP)
GIR. & WEB BM.	"✗" MARK - WEB 450 × 10, F.PL. 200 × 10 (A), NO MARK CT 248 × 199 × 9/14 (A)
PILL.	90 × 90 × 10 □

2100511 — 7

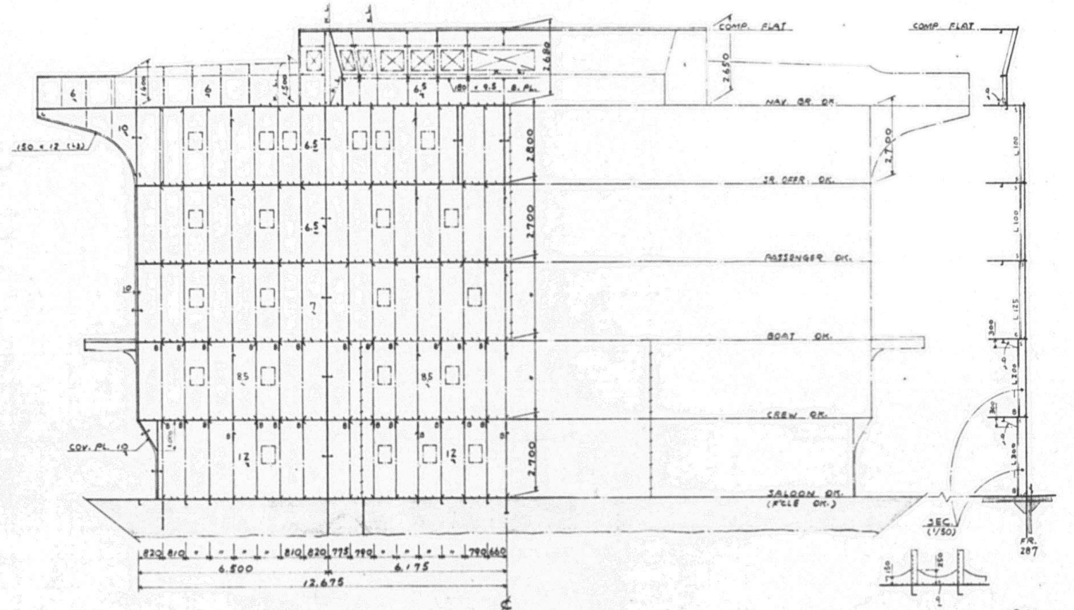


FRAME SPACE	770
DECK BEAM	L 100 × 75 × 7 (ENDS CLIP)
GIR. & WEB BM.	CT 248 × 199 × 9/14 (A)
PILL.	89.1$^{\phi}$ × 7.6 STPG

2100511 — 8

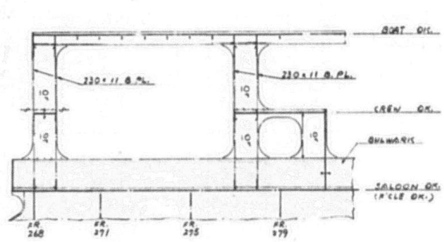
FRONT WALL

LOOKING FOR'D

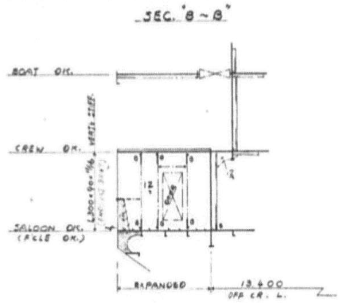


2100511- 9/

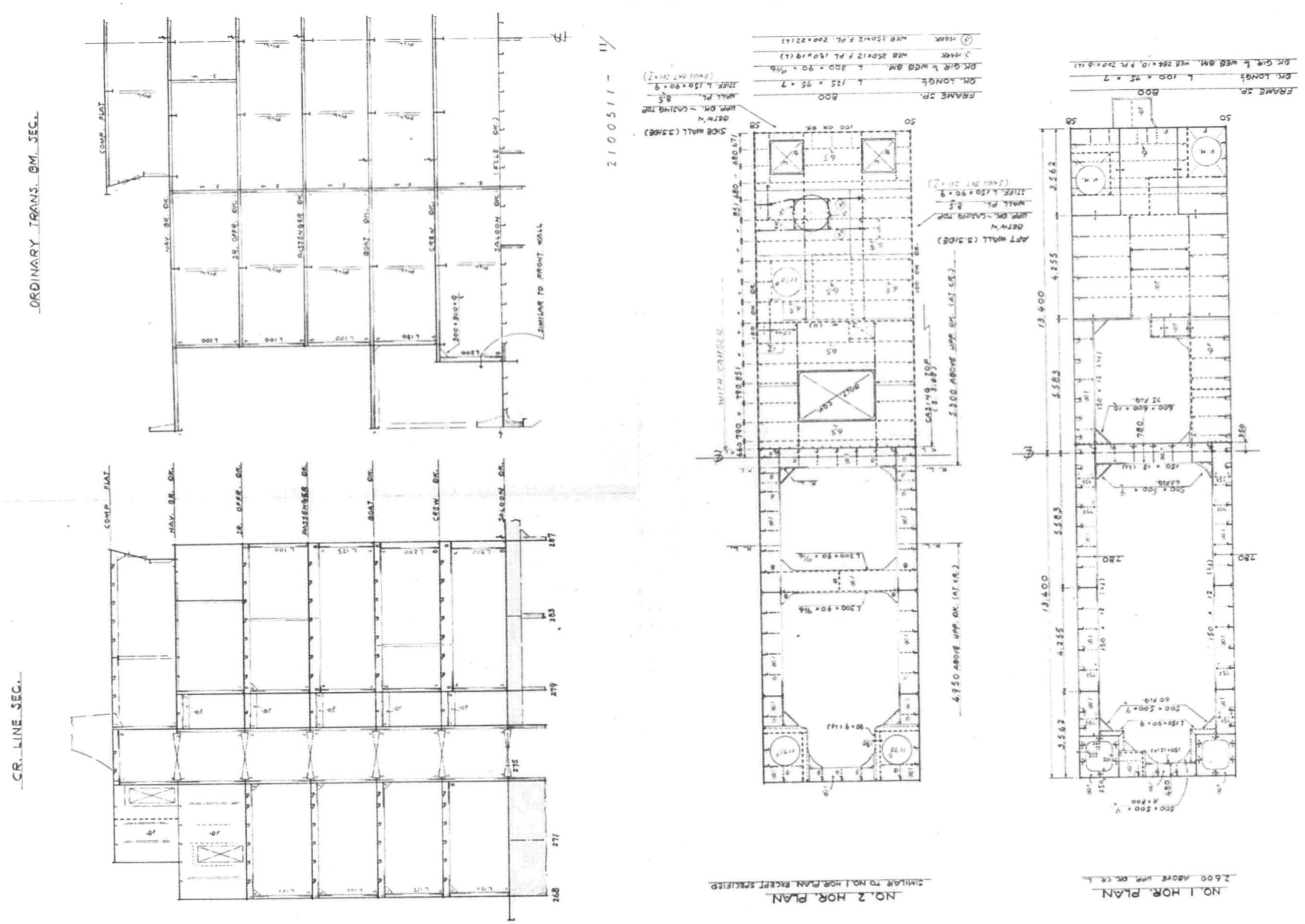
SEC. "A~A"



SEC. "B~B"



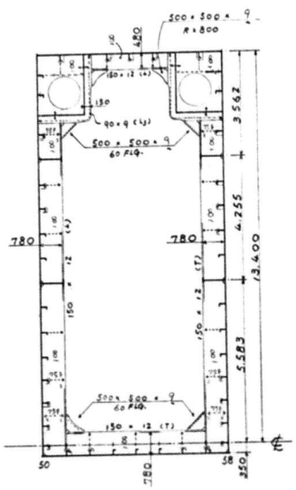
2100511- 19/



397

NO. 3 HOR. PLAN

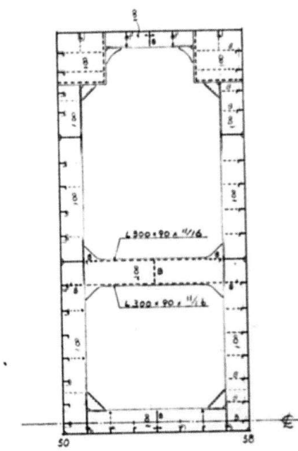
7.650 ABOVE UPP. DK. C.L.



NO. 4 HOR. PLAN

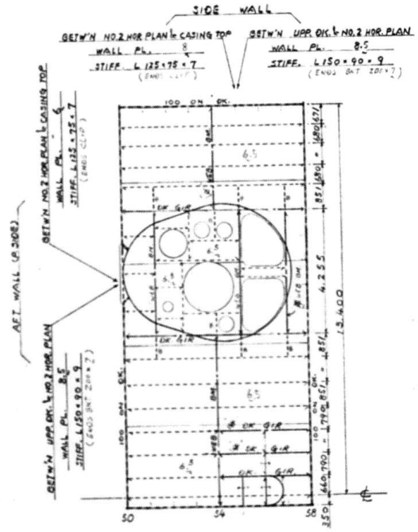
SIMILAR TO NO. 3 HOR. PLAN EXCEPT SPECIFIED

10.350 ABOVE UPP. DK. CR. L.



CASING TOP PLAN (WITH CAMBER)

13.150 ABOVE UPP. DK. CR. L.

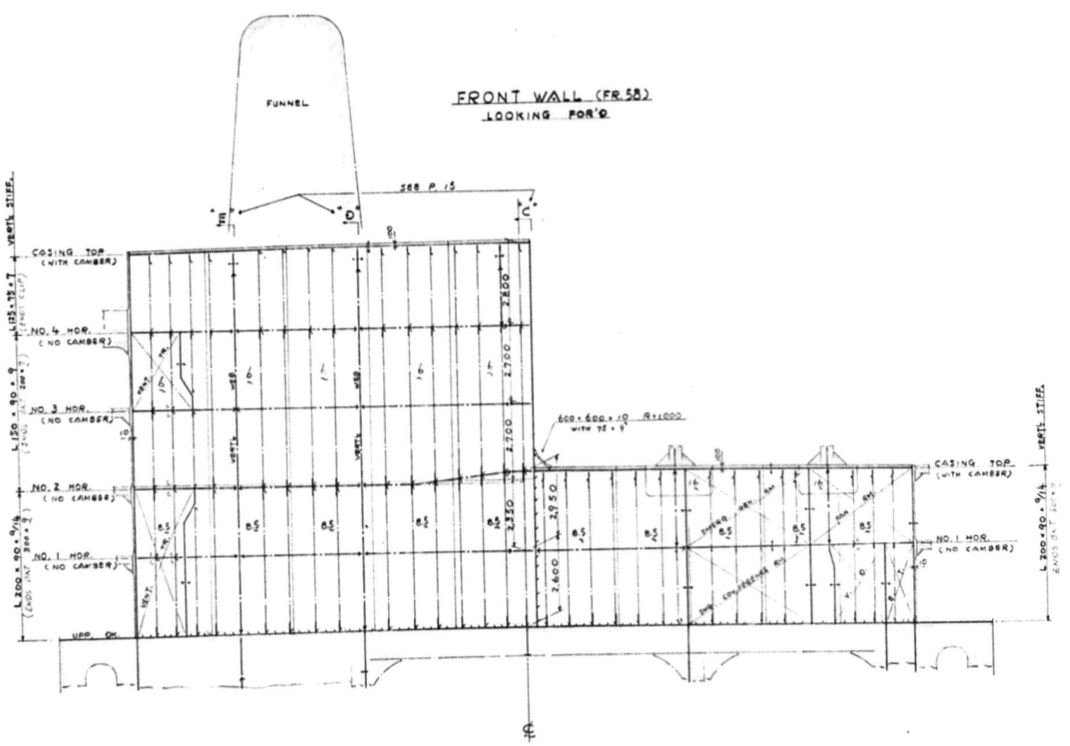


FRAME SP.	800
DK. LONG'L	L 125 × 75 × 7
DK. GIR. & WEB BM.	WEB 780 × 10, F.R. 150 × 12
✓ MARK	L 300 × 90 × 11/16
# MARK	L 400 × 100 × 11.5/16

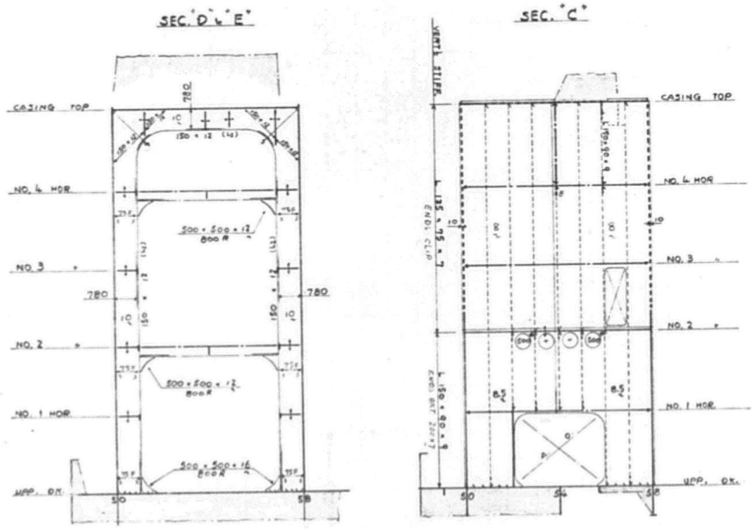
2100511- 13/

FRONT WALL (FR. 58)

LOOKING FOR'D



2100511- 14/



210051I - 15/5

399

APPROVAL OF OWNER & REGULATORY BODIES

ALT.NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	June 20 '85	OFTS/MES-580			8 Aug '86	T-8-2		
PARTLY REVISED PLAN NO.1	July 25 '85	TAM/26			17 Sep '86	T-8-2		
2ND PART. REV	8 Sep '86	TAM/63			15 Oct '86	T-8-2		
3RD PART. REV	28 Sep '86	TAM/81			19 Nov '86	T-8-2		
4TH PART. REV	6 FEB '86				20 FEB '86	T-8-2		

FINISHEDPLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.

SHIP'S NO. **1325** SHIP'S NAME **TILLIE LYKES**

船首構造

FORE CONSTRUCTION

DATE (TEL 3227)
JOB NO. TS1323/24/25
SCALE 1/100
LYKES REF. NO. 111701
MITSUI DRAWING NO. 2103201 R

(18 SHEETS WITH COVER)

PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO. 1323 AS FINISHED PLAN,	
		CHANGED AS FOLLOWS.	NOV.28.'86
		△ MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	
		MADE APPLICABLE TO S.NO. 1324 AND S.NO. 1325."	

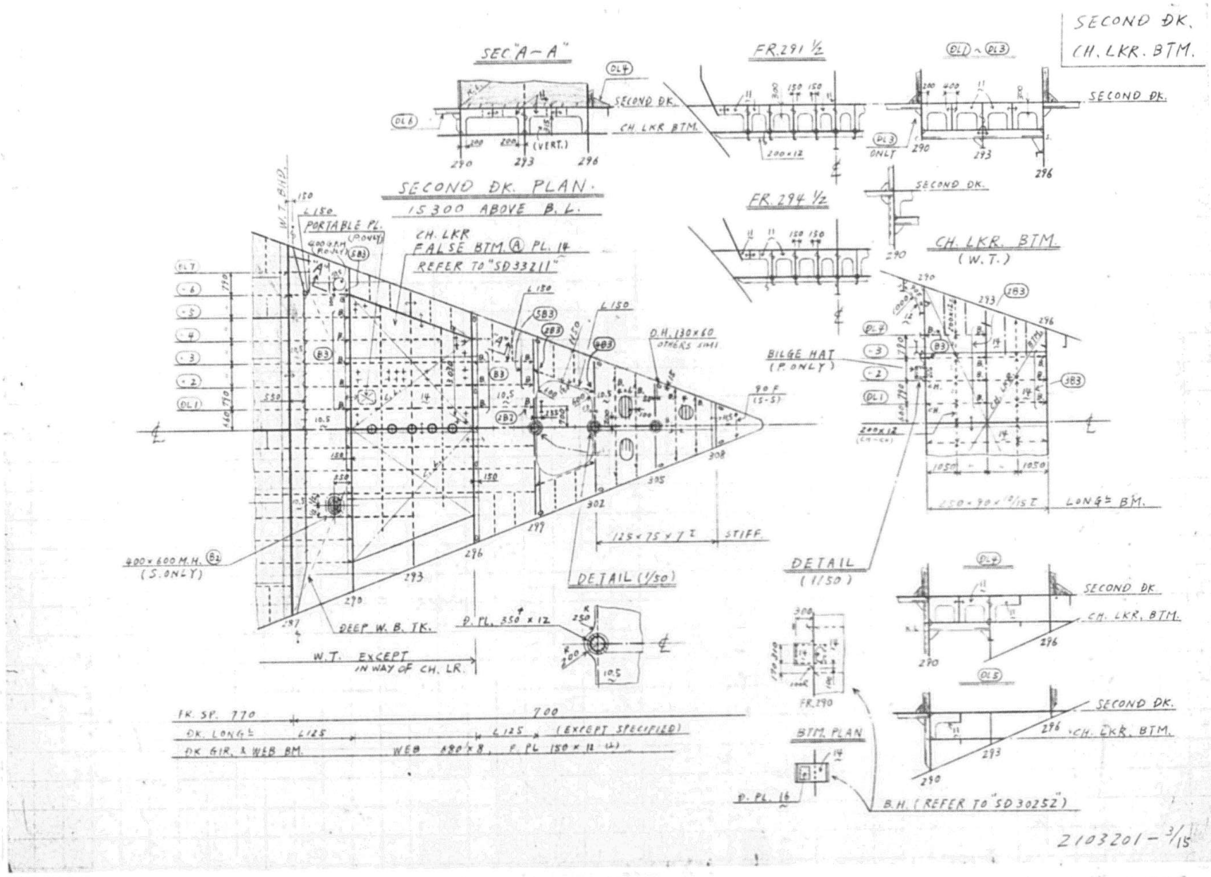
DWG.NO. 2103201-1

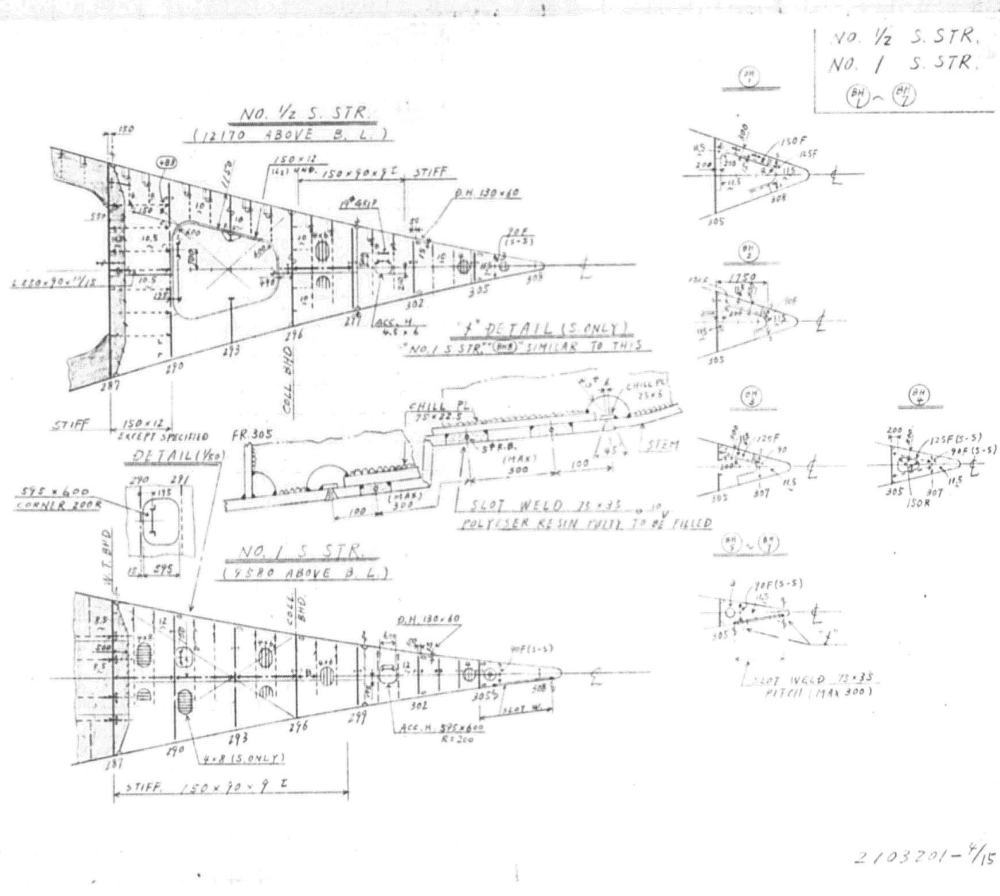
NOTES:-

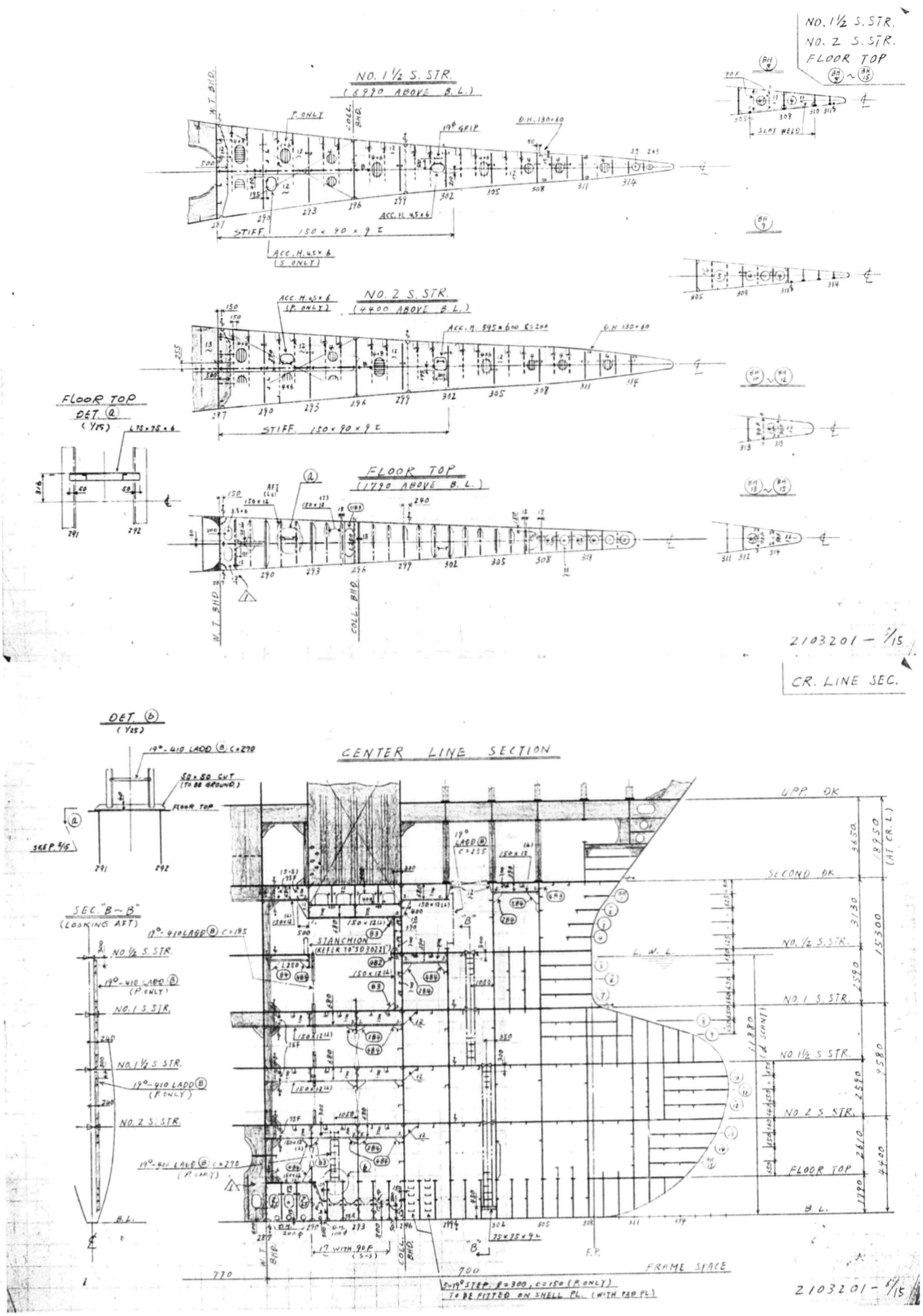
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は'構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は'溶接脚長表（図番2100832）'を参照のこと。

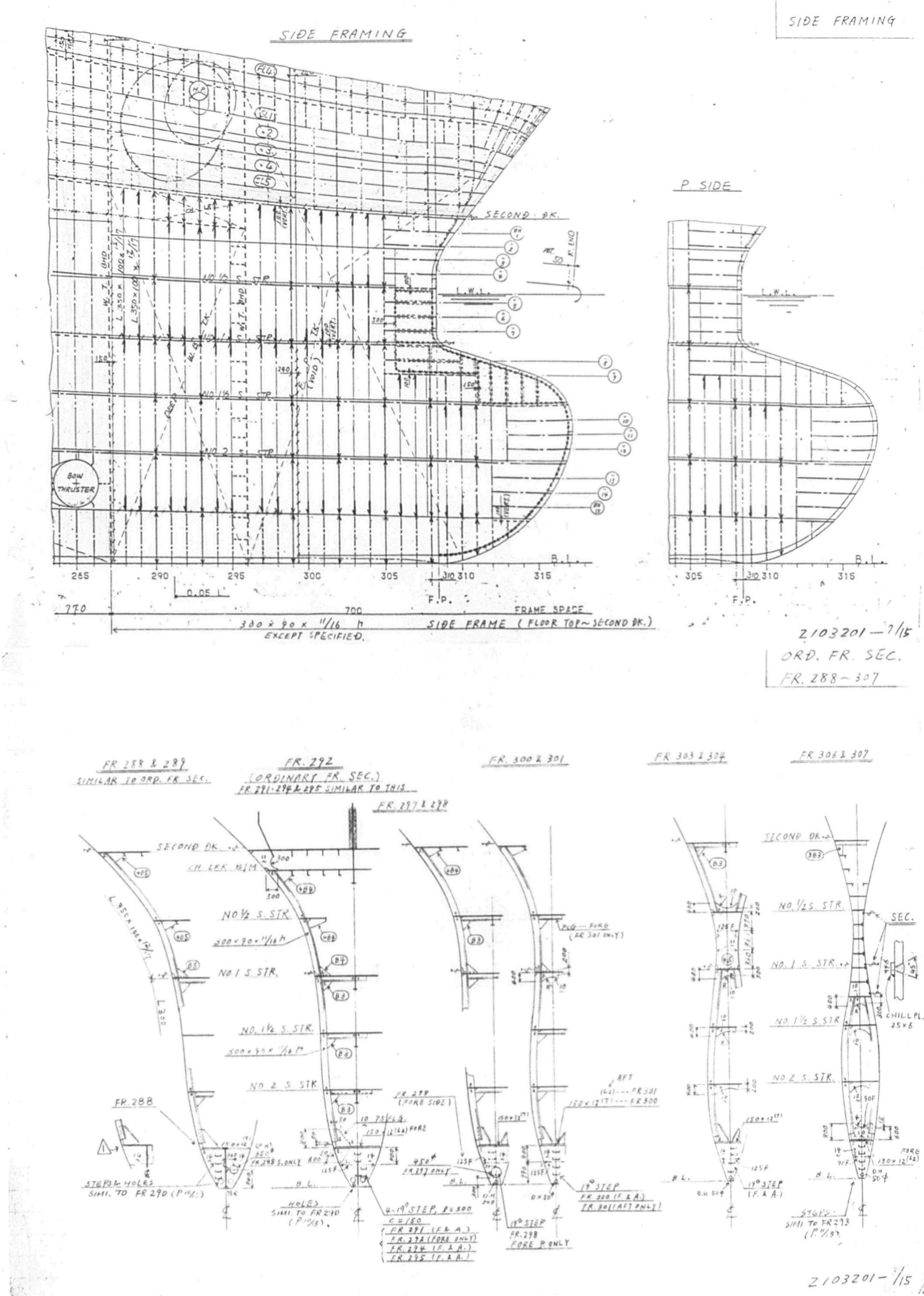

SECOND DK.
CH. LKR. BTM.
SEC "A-A"
FR.291 1/2
FR.294 1/2
SECOND DK. PLAN.
15300 ABOVE B.L.
CH. LKR
FALSE BTM.Ⓐ PL. 14
REFER TO "SD33211"
PORTABLE PL.
CH. LKR. BTM.
(W.T.)
BILGE HAT
(P. ONLY)
D.H. 130×60
LONG'L BM.
400×600 M.H.
(S. ONLY)
DETAIL (1/50)
DETAIL
(1/50)
DEEP W.B. TK.
W.T. EXCEPT
IN WAY OF CH. LR.
FR. SP. 770
DK. LONG'L
DK. GIR. & WEB BM.
(EXCEPT SPECIFIED)
BTM. PLAN
B.H. (REFER TO "SD30252")
STIFF.
2103201-3/15

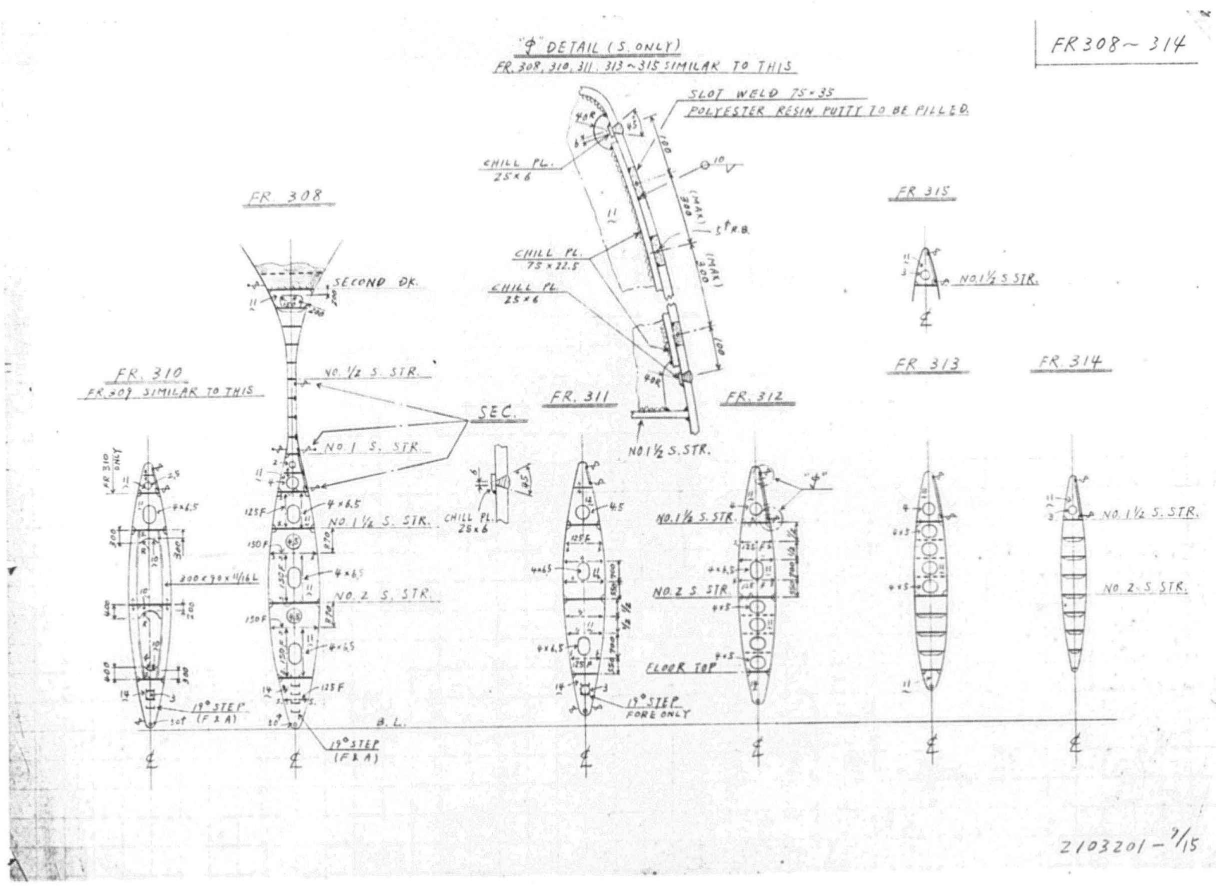

NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1/2 S. STR.
(12170 ABOVE B.L.)
STIFF
D.H. 130×60
"f" DETAIL (S. ONLY)
"NO. 1 S. STR." SIMILAR TO THIS
CHILL PL.
COLL. BHD
FR. 305
STEM
DETAIL (1/50)
545×600
CORNER 200R
SLOT WELD
POLYESER RESIN PUTTY TO BE FILLED
NO. 1 S. STR.
(9580 ABOVE B.L.)
W.T. BHD
SLOT WELD
STIFF. 150×90×9 I
2103201-4/15

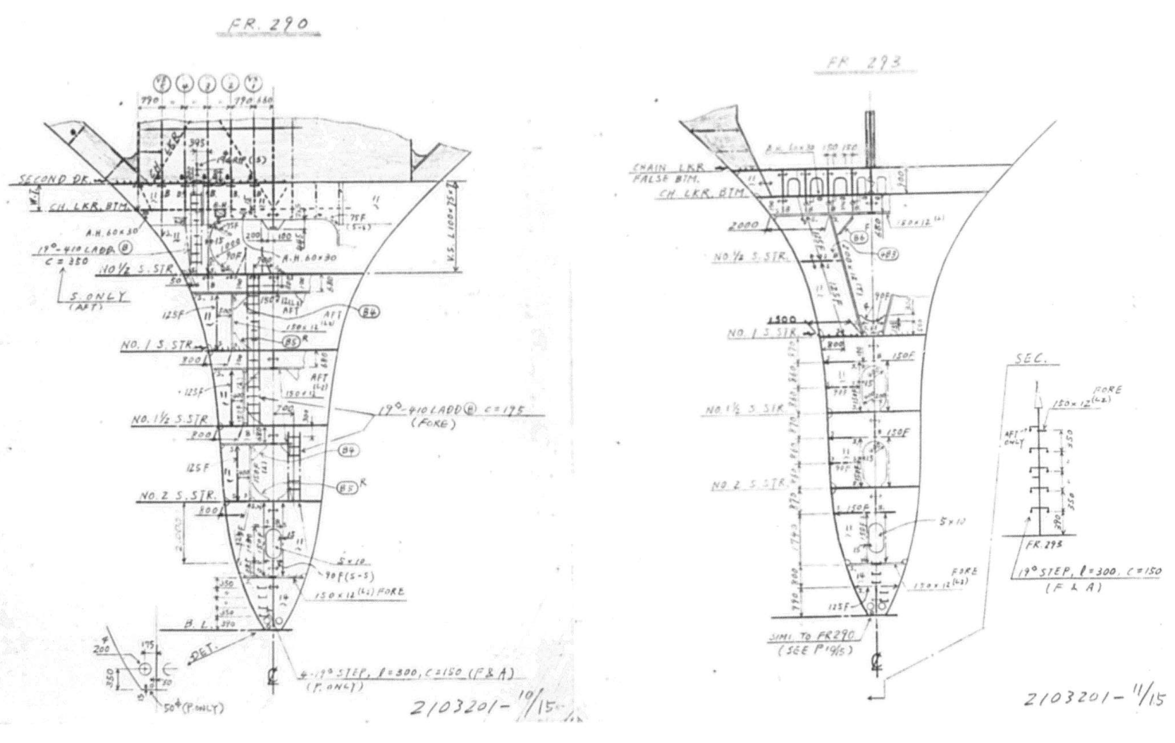


NO. 1 1/2 S. STR.
NO. 2 S. STR.
FLOOR TOP
NO. 1 1/2 S. STR.
(6990 ABOVE B. L.)
NO. 2 S. STR.
(4400 ABOVE B. L.)
FLOOR TOP
(1790 ABOVE B. L.)
FLOOR TOP
DET. (a)
(1/25)
STIFF. 150 × 90 × 9 I
W. T. BHD.
COLL. BHD.
2103201 - 5/15
CR. LINE SEC.
DET. (b)
(1/25)
CENTER LINE SECTION
SEC. "B ~ B"
(LOOKING AFT)
UPP. DK
SECOND DK
L. W. L.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
FLOOR TOP
B. L.
STANCHION
FRAME SPACE
F.P.
18950
15300
9580
4400
2103201 - 5/15

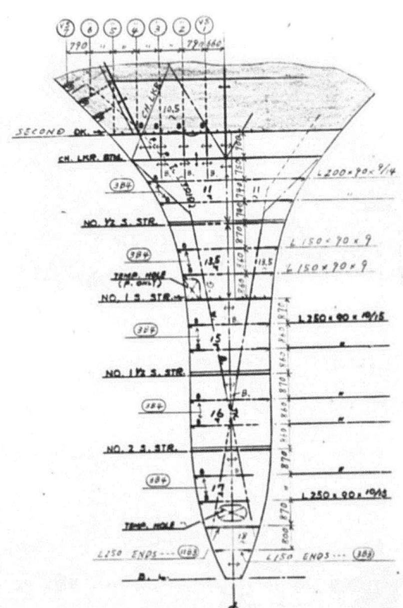
402


SIDE FRAMING
SIDE FRAMING
P. SIDE
SECOND DK.
BOW THRUSTER
FRAME SPACE
300 × 90 × 11/16 H SIDE FRAME (FLOOR TOP~SECOND DK.)
EXCEPT SPECIFIED.
Z103201—7/15
ORD. FR. SEC.
FR. 288~307
FR. 288 & 289
SIMILAR TO ORD. FR. SEC.
FR. 292
(ORDINARY FR. SEC.)
FR. 297 & 298
FR. 300 & 301
FR. 303 & 304
FR. 306 & 307
SECOND DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
FR. 288
Z103201—7/15


FR308 ~ 314
"ф" DETAIL (S. ONLY)
FR. 308, 310, 311, 313 ~ 315 SIMILAR TO THIS
SLOT WELD 75 × 35
POLYESTER RESIN PUTTY TO BE FILLED.
CHILL PL. 25 × 6
CHILL PL. 75 × 22.5
CHILL PL. 25 × 6
NO 1½ S. STR.
FR. 308
SECOND DK.
FR. 310
FR. 309 SIMILAR TO THIS
NO. ½ S. STR.
SEC.
NO. 1 S. STR.
NO. 1½ S. STR.
NO. 2. S. STR.
19° STEP (F & A)
B. L.
FR. 311
FR. 312
19° STEP FORE ONLY
FLOOR TOP
FR. 315
FR. 313
FR. 314
NO. 1½ S. STR.
NO. 2. S. STR.
2103201 - 9/15

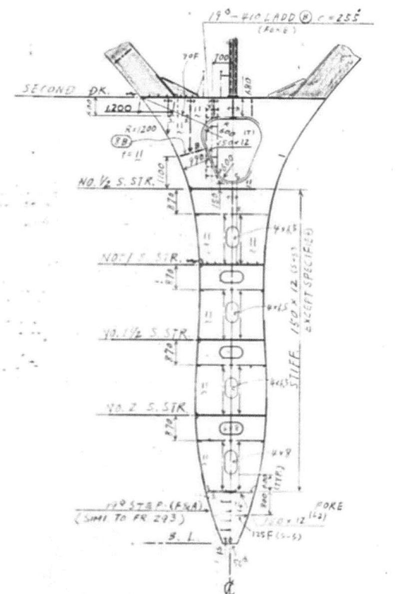

FR. 290
SECOND DK.
CH. LKR. BTM.
A.H. 60 × 30
19° - φ10 LADD. ⑧
C = 250
NO ½ S. STR.
S. ONLY (AFT)
NO. 1 S. STR.
19° - φ10 LADD ⑧ C = 175 (FORE)
NO. 1½ S. STR.
NO. 2. S. STR.
B. L.
DET.
4 - 19° STEP, ℓ = 300, C = 150 (F & A)
(P. ONLY)
2103201 - 10/15
FR. 293
CHAIN LKR.
FALSE BTM.
CH. LKR. BTM.
NO ½ S. STR.
NO. 1 S. STR.
NO. 1½ S. STR.
NO. 2 S. STR.
SIMI. TO FR290 (SEE P 10/15)
SEC.
FR. 293
19° STEP, ℓ = 300, C = 150 (F & A)
2103201 - 11/15

FR.296
(COLL. BHD.)



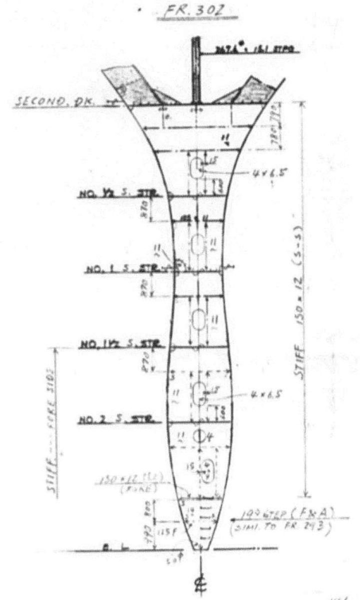
2103201-12/15

FR.299



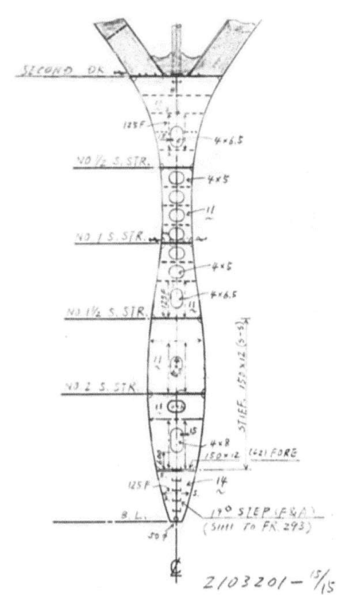
2103201-13/15

FR.302



2103201-14/15

FR.305



2103201-15/15

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN	MAY 27.85	
-01		FOLLOWED MES PARTLY REVISED PLAN NO. 1	JUL. 23. 85	
-02	A	PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS 1. ADDED BLOCK BUTT JOINTS ON 2ND DECK, NO. 1/2 SIDE STR AND SIDE SHELL. 2. ADDED AIR HOLES IN FR. 299 & 302 SECT. 3. DELETED INSERT PLATE IN FR. 302 SECT.	AUG. 29. 85	
-03		FOLLOWED MES PARTLY REVISED PLAN NO. 2	SEP. 6. 85	
-04		Do. NO. 3	SEP. 30. 85	
-05		Do. NO. 4	JAN. 28. 86	
-F	—	PREPARED AS FINISHED PLAN FOR S No. 1158	MAR. 1. 87	

17 SHEETS WITH COVER

SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION — CLASS ABS

APPROVED: O. Hirayama, H. Kobayashi — CHECKED: S. Furuhashi

船首構造

FORE CONSTRUCTION

ORDER: 01-15800 ~~01-16800~~ ~~01-16400~~ — DRAWING NO. HS-44400-F — LYKES REF. NO. 111701

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL								

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SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
NO. 1323	~~DOCTOR LYKES~~	NO. 1158	JAMES LYKES
NO. 1324	~~ALMERIA LYKES~~	NO. 1159	~~JOSEPH LYKES~~
NO. 1325	~~TILLIE LYKES~~	NO. 1164	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

STRUCTURE DESIGN SEC. — SEC. CHIEF: M. Takeda — ASSIST. CHIEF: Y. Hayashi

PARTLY REVISED PLAN NO. 4

船首構造

FORE CONSTRUCTION

JOB NO. TS1323/24/25 — LYKES REF. NO. 111701 — MITSUI DRAWING NO. 2103201-4

(3 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS	MAY 16. '85
1	1	REVISED IN ACCORDANCE WITH OWNER'S APPROVED DWGS. (13 JUN '85)	JULY 15. '85
	1	MISCELLANEOUS REVISION	
2	2	MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	AUG. 28 '85 M.O.
3	3	REVISED FOR THE MISS DRAWING	SEP. 13 '85 T.H.
4	4	REVISED FOR THE REQUIREMENT OWNERS	JAN. 21. '86

DWG. NO. 2103201-4-1

NOTES:-

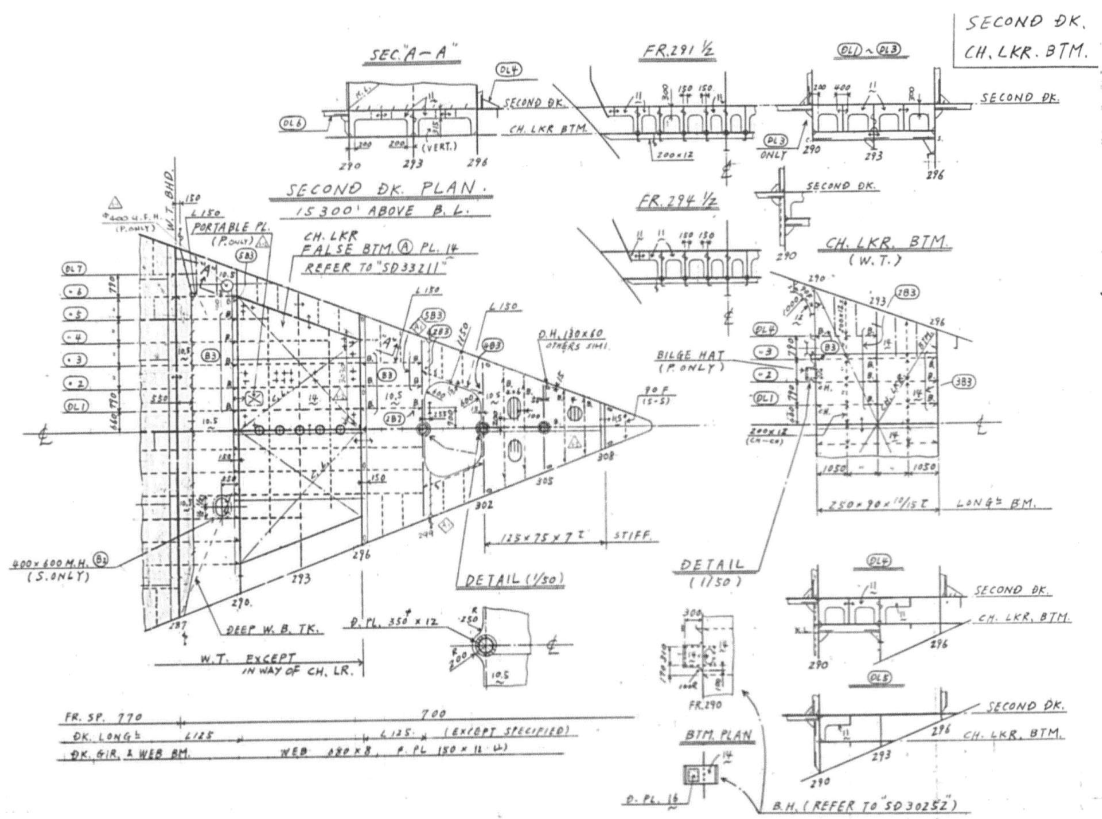
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備 考:-

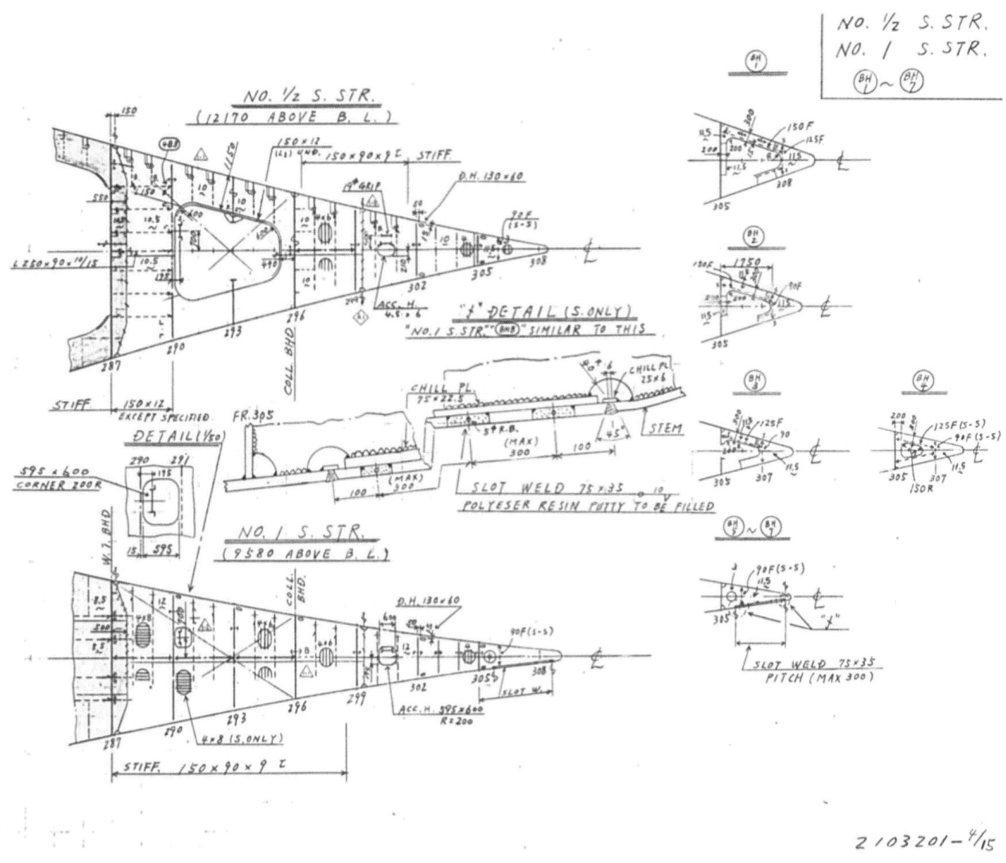
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番 2100811）」を参照のこと。
4. 溶接脚長については，特記の他は「溶接脚長表（図番 2100832）」を参照のこと。

2103201-2/15

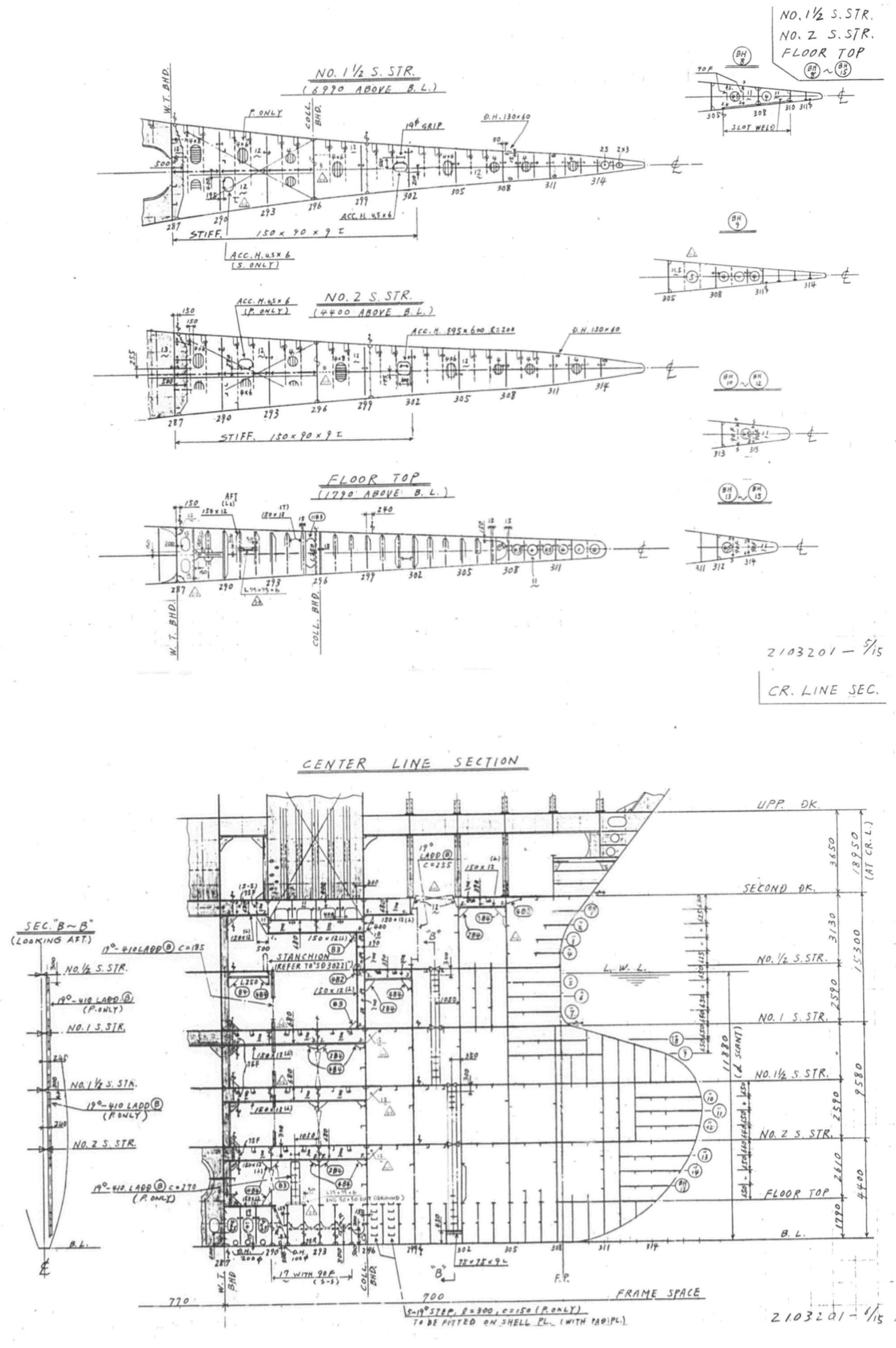
406



2103201-3/15

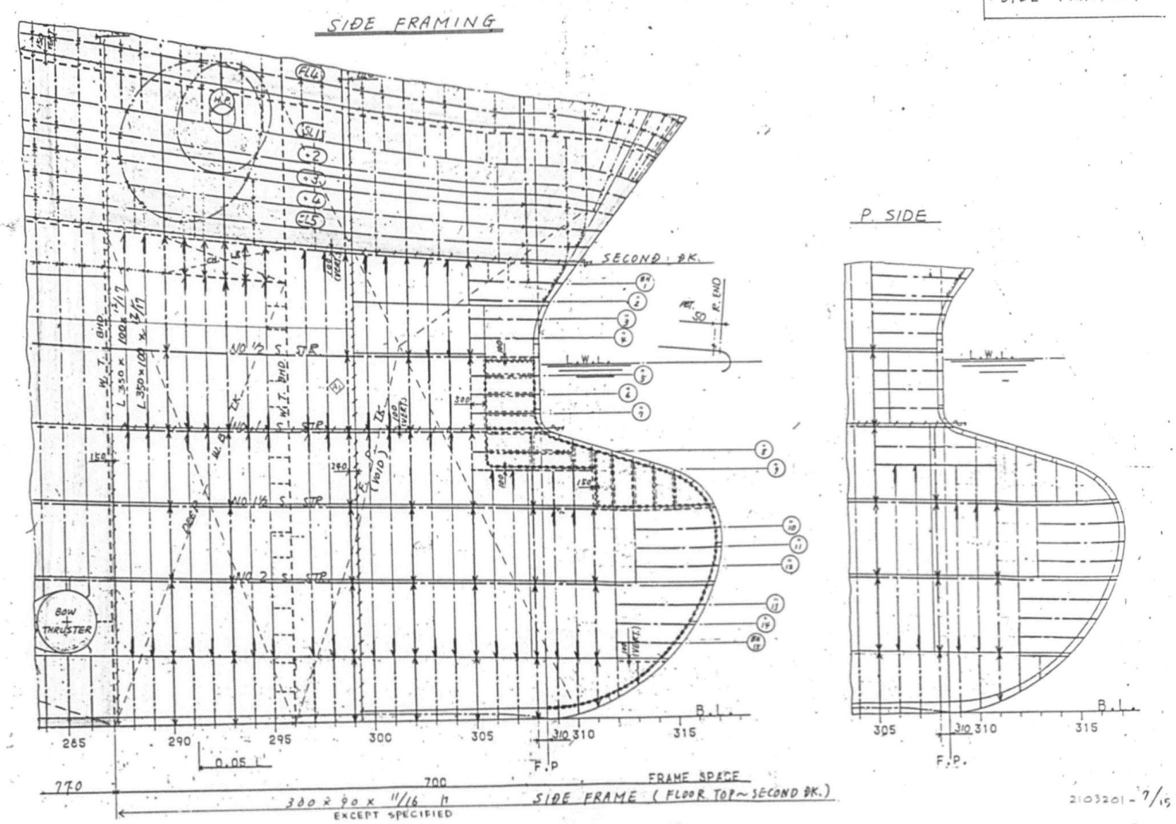


2103201-4/15



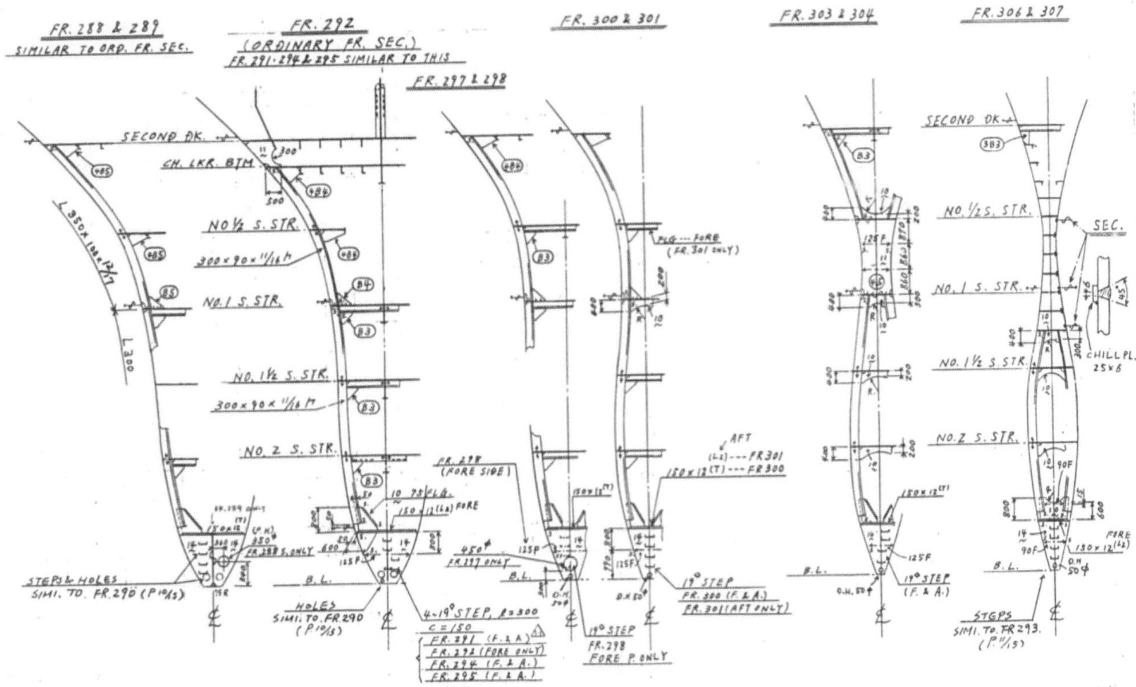
NO. 1½ S. STR.
NO. 2 S. STR.
FLOOR TOP
NO. 1½ S. STR.
(6990 ABOVE B.L.)
NO. 2 S. STR.
(4400 ABOVE B.L.)
FLOOR TOP
(1790 ABOVE B.L.)
2103201 — 5/15
CR. LINE SEC.
CENTER LINE SECTION
SEC. "B~B"
(LOOKING AFT.)
UPP. DK.
SECOND DK.
NO. ½ S. STR.
NO. 1 S. STR.
NO. 1½ S. STR.
NO. 2 S. STR.
FLOOR TOP
B.L.
L.W.L.
STANCHION
FRAME SPACE
2103201 — 1/15

SIDE FRAMING



2103201-7/15

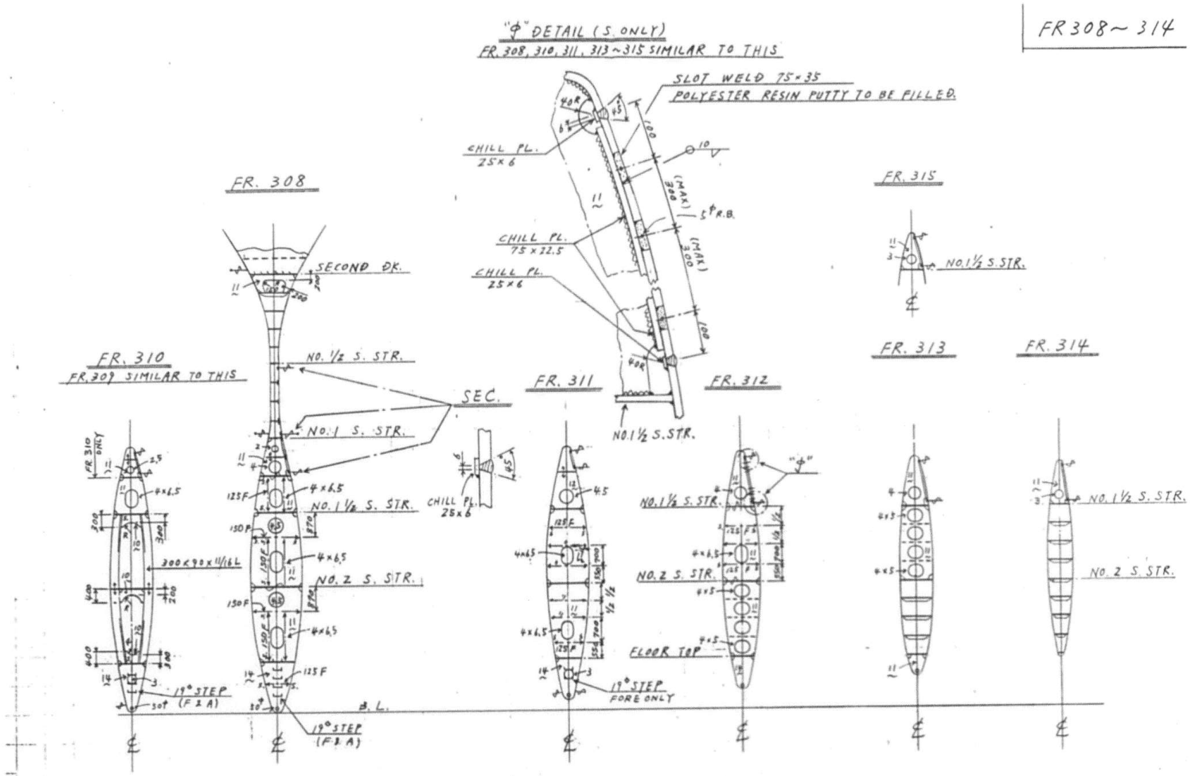
ORD. FR. SEC.
FR. 288~307



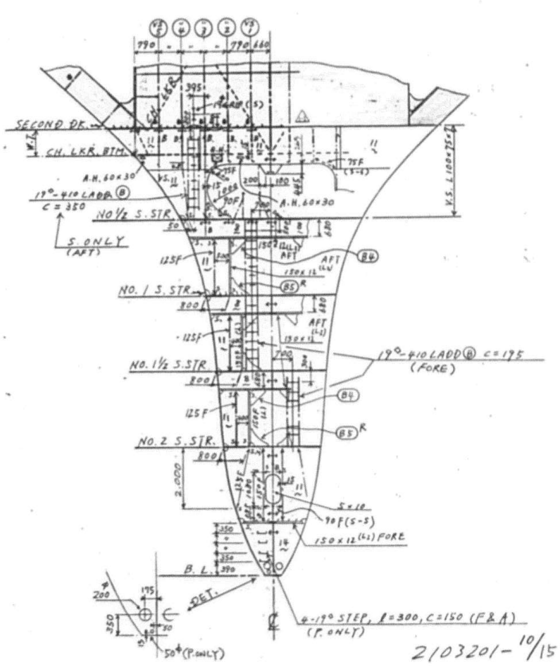
2103201-8/15

409

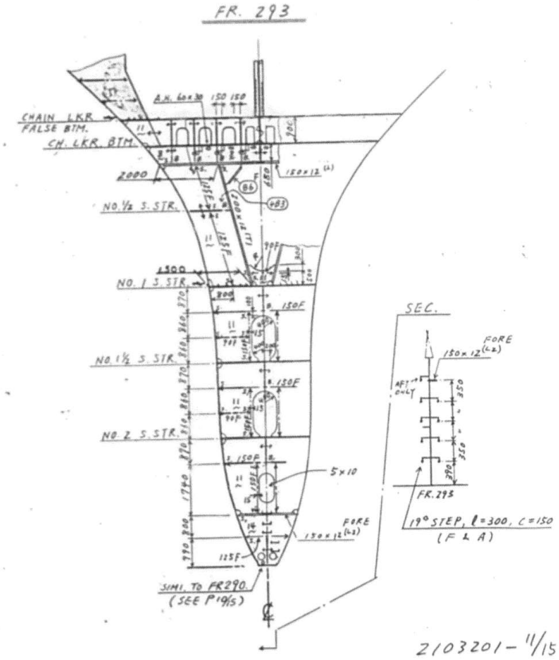
FR308~314



2103201-9/15

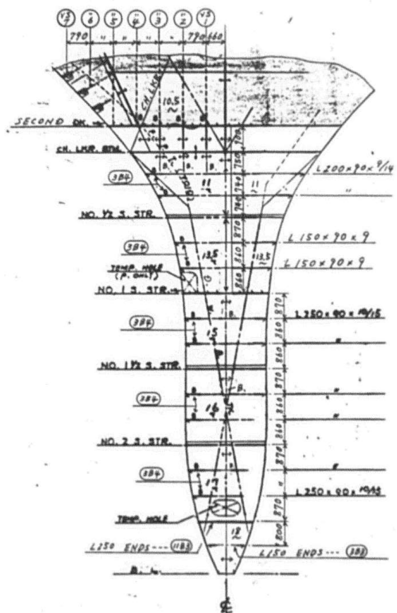


2103201-10/15



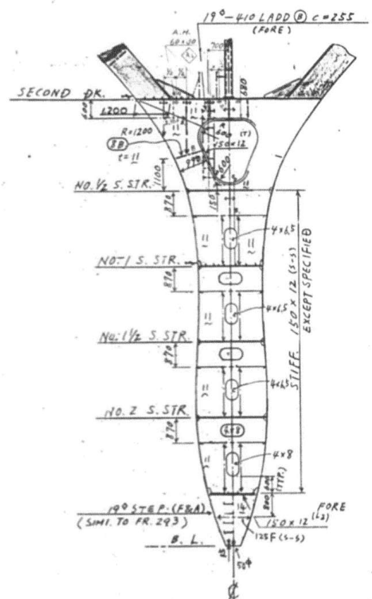
2103201-11/15

FR.296
(COLL. BHD.)



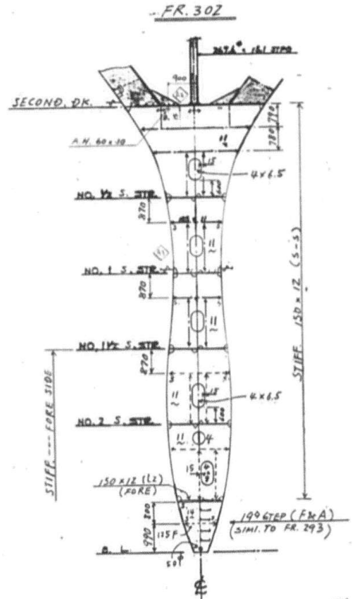
2103201-12/15

FR.299



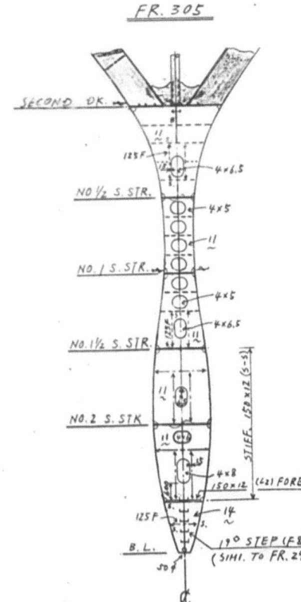
2103201-13/15

FR.302



2103201-14/15

FR.305



2103201-15/15

411

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	29APR'86				11AUG'86	T-8-2		
1ST PART REV	—	—			30AUG'86	T-8-2		
2ND PART REV	5JUL'86	TAM/13			17SEP'86	T-8-2		
3RD PART REV	9SEP'86	TAM/46			9OCT'86	T-8-2		
4TH PART REV	14NOV'86	TAM/102			20NOV'86	T-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC. CHIEF

SHIP'S NO. **1325**
SHIP'S NAME **TILLIE LYKES**

船尾構造
AFT CONSTRUCTION

DATE (TEL 22-2234, 2227)
JOB NO. TS1323/24/25
SCALE
JOBCLASSIF. NO.
LYKES REF. NO. 111702
MITSUI DRAWING NO. 2104101

(27 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		PREPARED FOR S.NO. 1323 AS FINISHD PLAN, MADE APPLICABLE TO S.NO. 1324 AND S.NO. 1325.	NOV. 28.'86

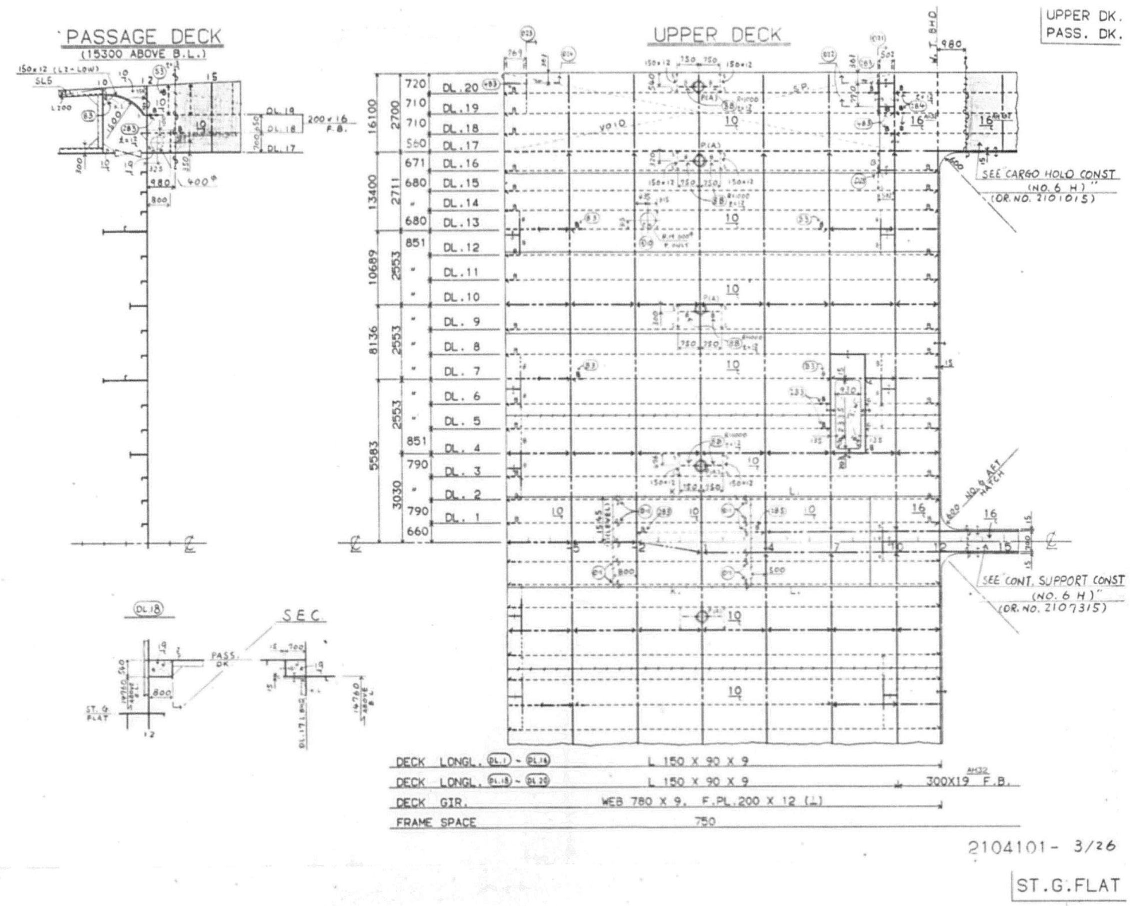
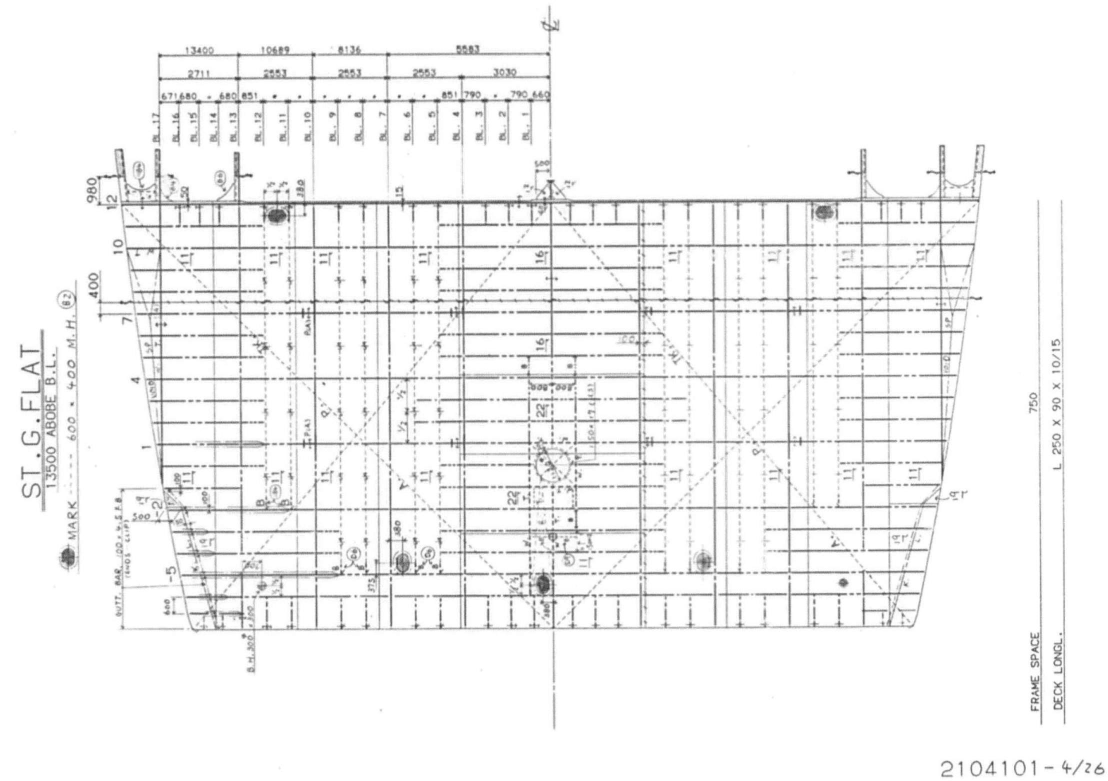
DWG. NO. 2104101 - 1/26

NOTES:-

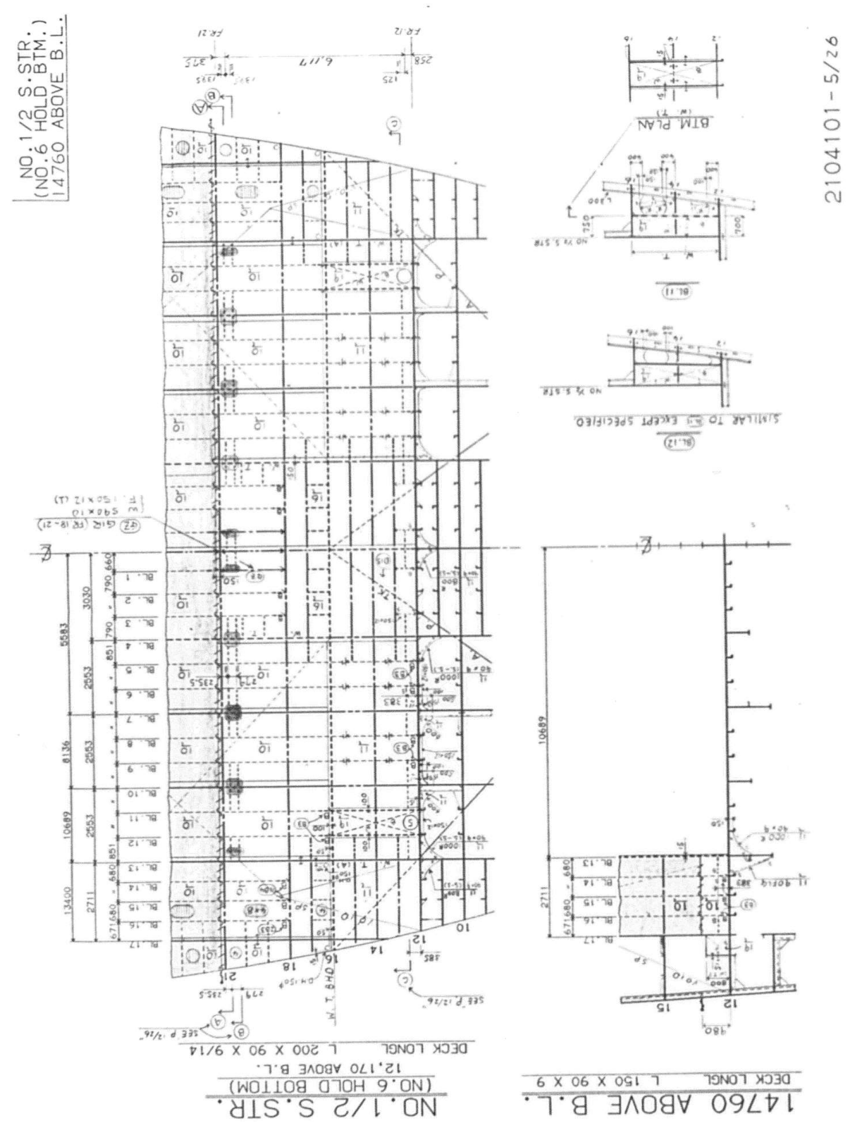
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

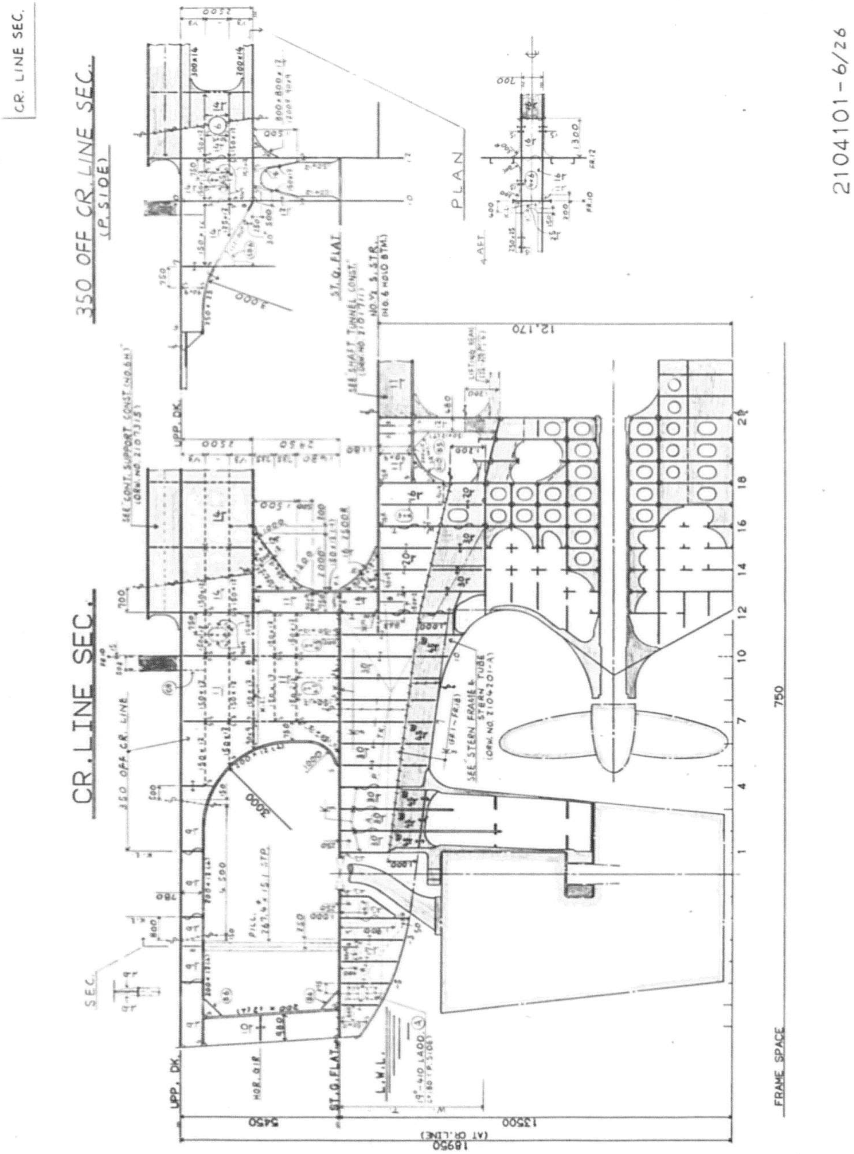
備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は'構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は'溶接脚長表（図番2100832）'を参照のこと。


UPPER DK.
PASS. DK.
PASSAGE DECK
(15300 ABOVE B.L.)
UPPER DECK
SEE CARGO HOLD CONST (NO.6 H.) (DR.NO. 2101015)
SEE CONT. SUPPORT CONST (NO.6 H.) (DR.NO. 2107315)
S.E.C.
DECK LONGL. L 150 X 90 X 9
DECK LONGL. L 150 X 90 X 9 300X19 F.B.
DECK GIR. WEB 780 X 9. F.PL.200 X 12
FRAME SPACE 750
2104101- 3/26
ST.G.FLAT

ST.G.FLAT
13500 ABOBE B.L.
MARK 600 × 400 M.H.
FRAME SPACE 750
DECK LONGL. L 250 X 90 X 10/15
2104101- 4/26

413

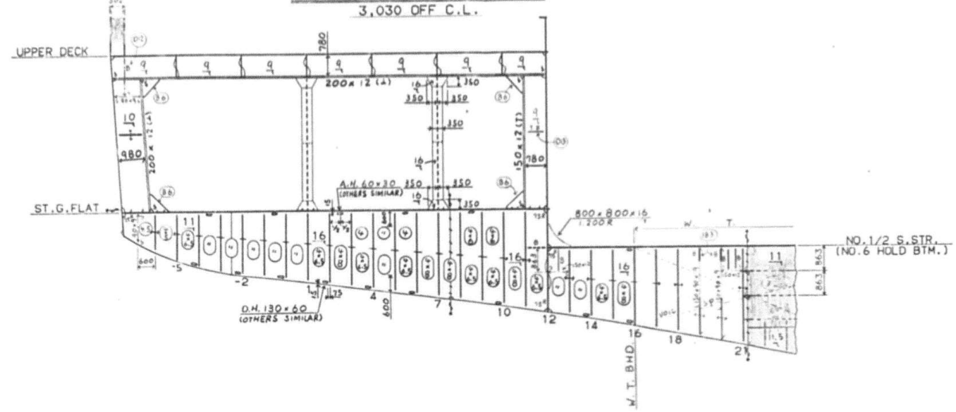

NO.1/2 S.STR.
(NO.6 HOLD BTM.)
14760 ABOVE B.L.
NO.1/2 S.STR.
(NO.6 HOLD BOTTOM)
12,170 ABOVE B.L.
DECK LONGL L 200 X 90 X 9/14
14760 ABOVE B.L.
DECK LONGL L 150 X 90 X 9
BTM. PLAN
SIMILAR TO BL.11 EXCEPT SPECIFIED
2104101-5/26


CR. LINE SEC.
350 OFF CR.LINE SEC.
(P.SIDE)
PLAN
CR.LINE SEC.
UPP. DK.
L.W.L.
FRAME SPACE
2104101-6/26

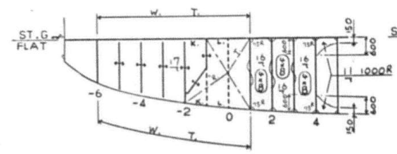
BL 4 SIDE GIR.
RUDD. TRK. SIDE GIR

BL 4 SIDE GIR.

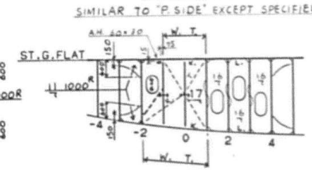
3,030 OFF C.L.



RUDDER TRUNK SIDE GIR.
(P. SIDE)



RUDDER TRUNK SIDE GIR.
(S. SIDE)
SIMILAR TO "P. SIDE" EXCEPT SPECIFIED

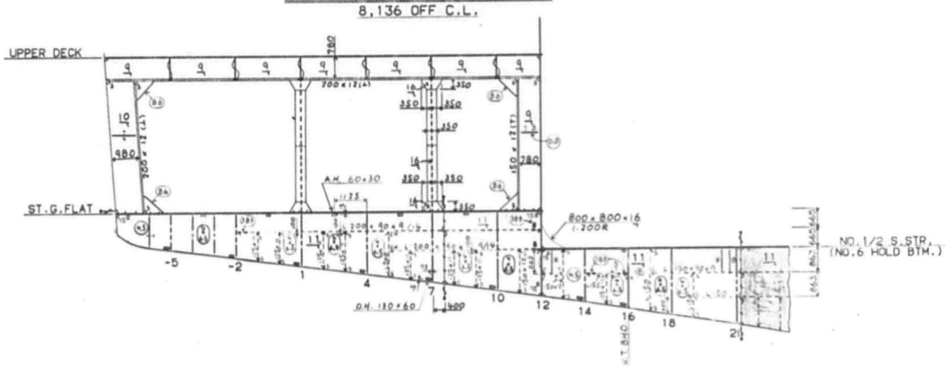


2104101-7/26

BL.10 SIDE GIR.
BL. 7 SIDE GIR.

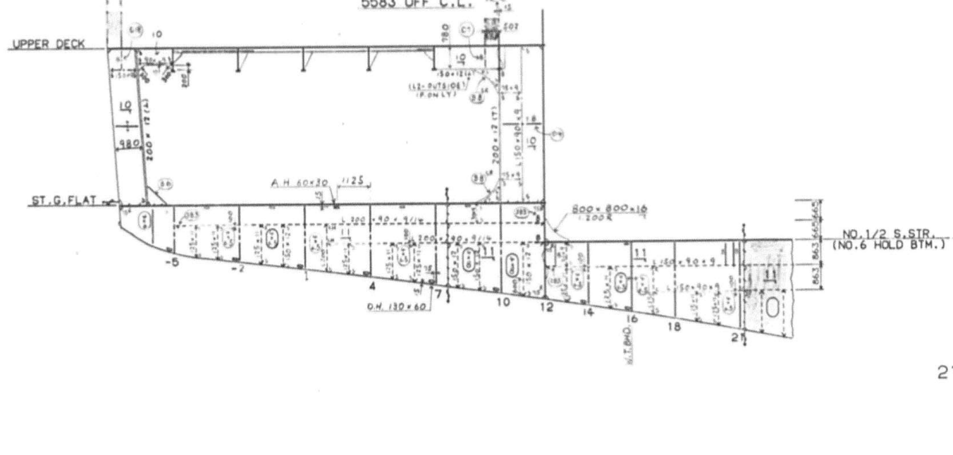
BL 10 SIDE GIR.

8,136 OFF C.L.



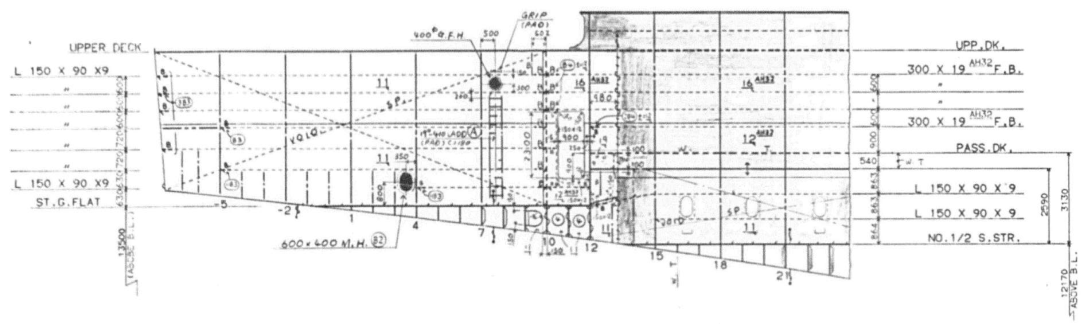
BL 7 SIDE GIR.

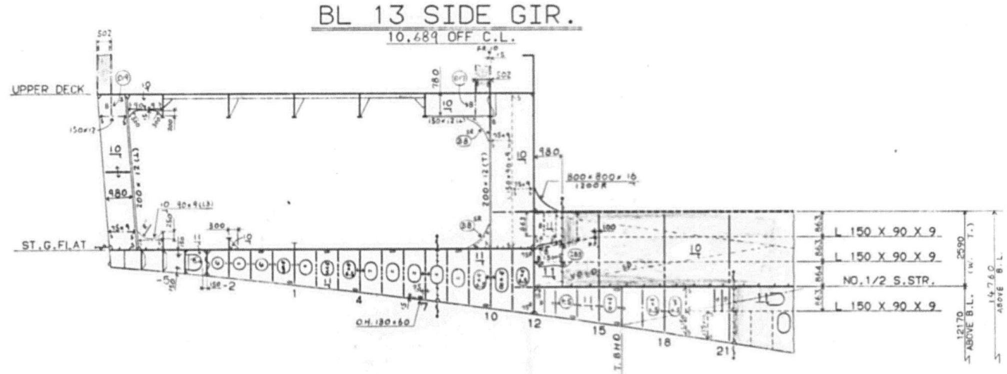
5583 OFF C.L.



2104101- 8/26

BL.17 LONGL.BHD
BL.13 SIDE GIR.



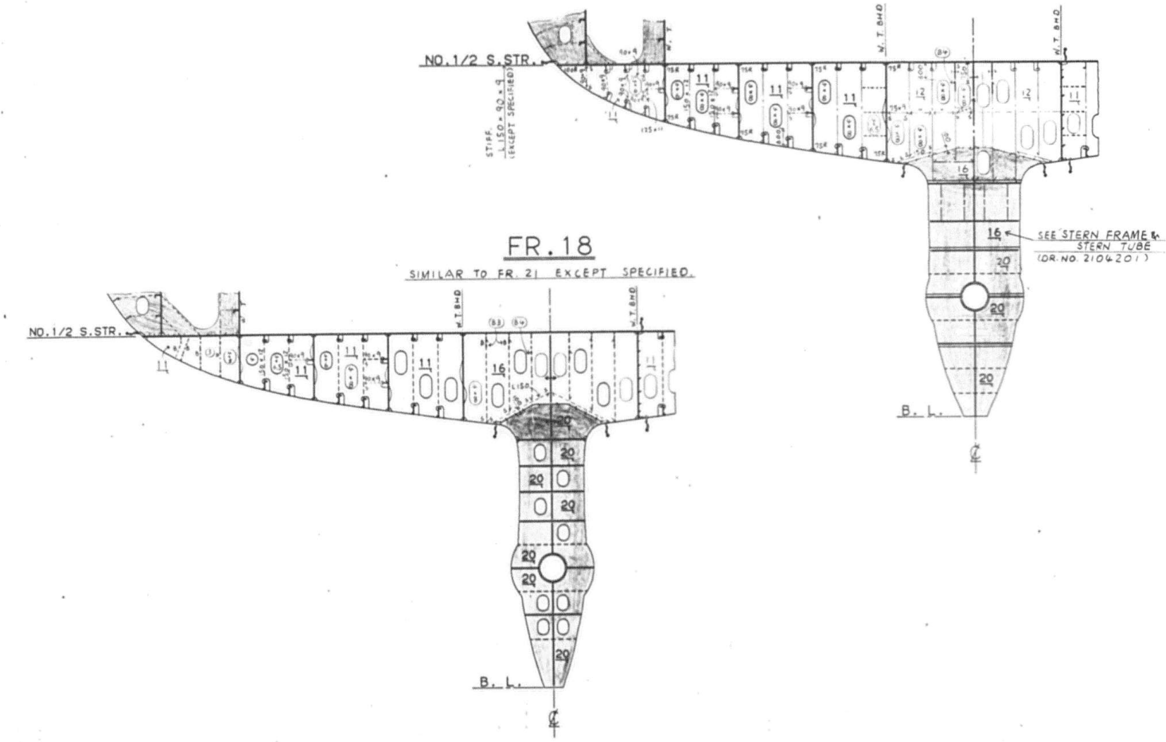


2104101- 9/26

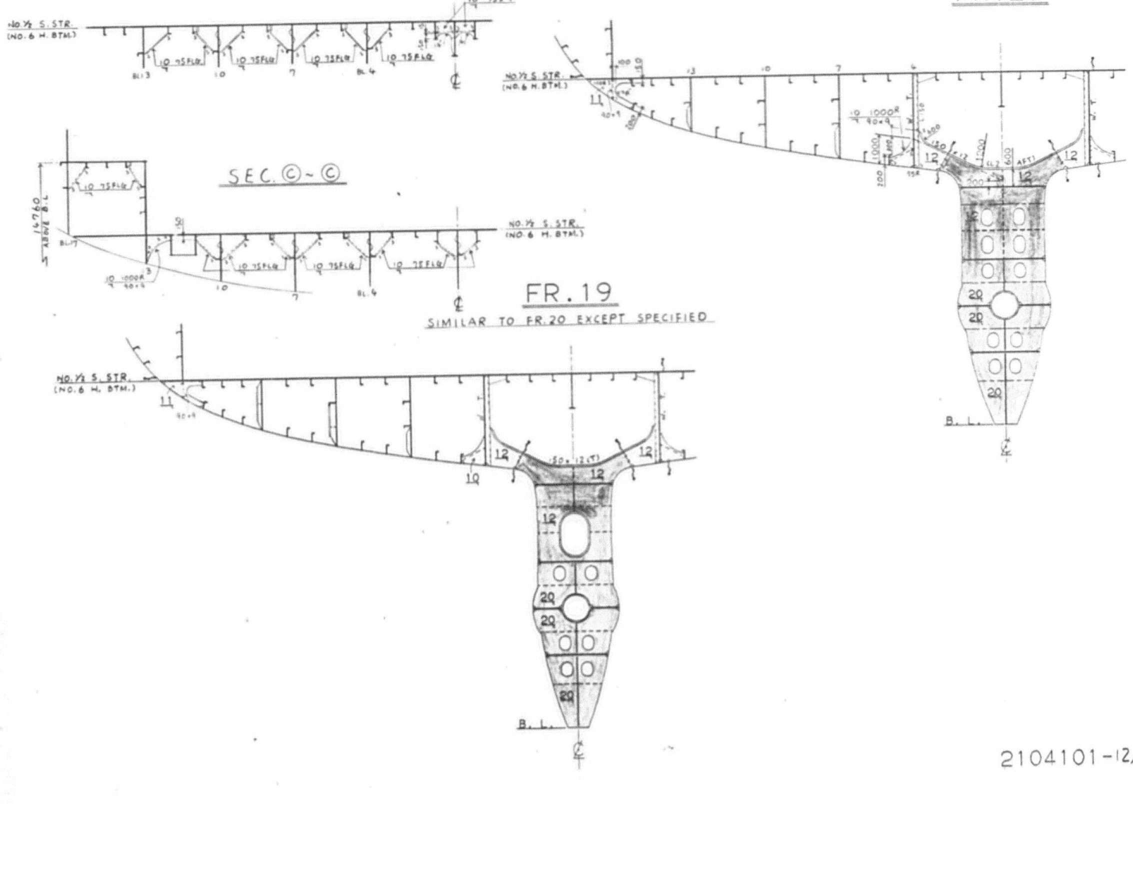
SIDE FRAMING

2104101- 10/26

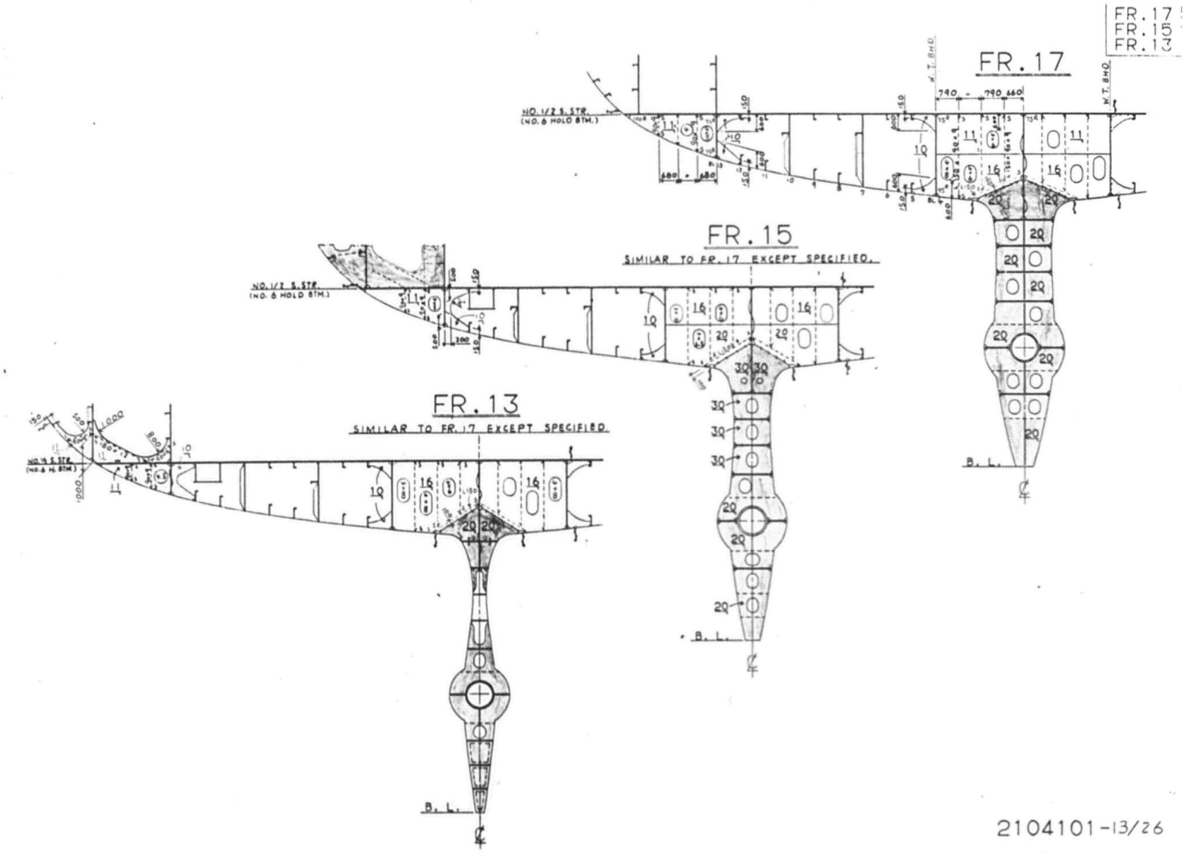
FR.21
FR.18



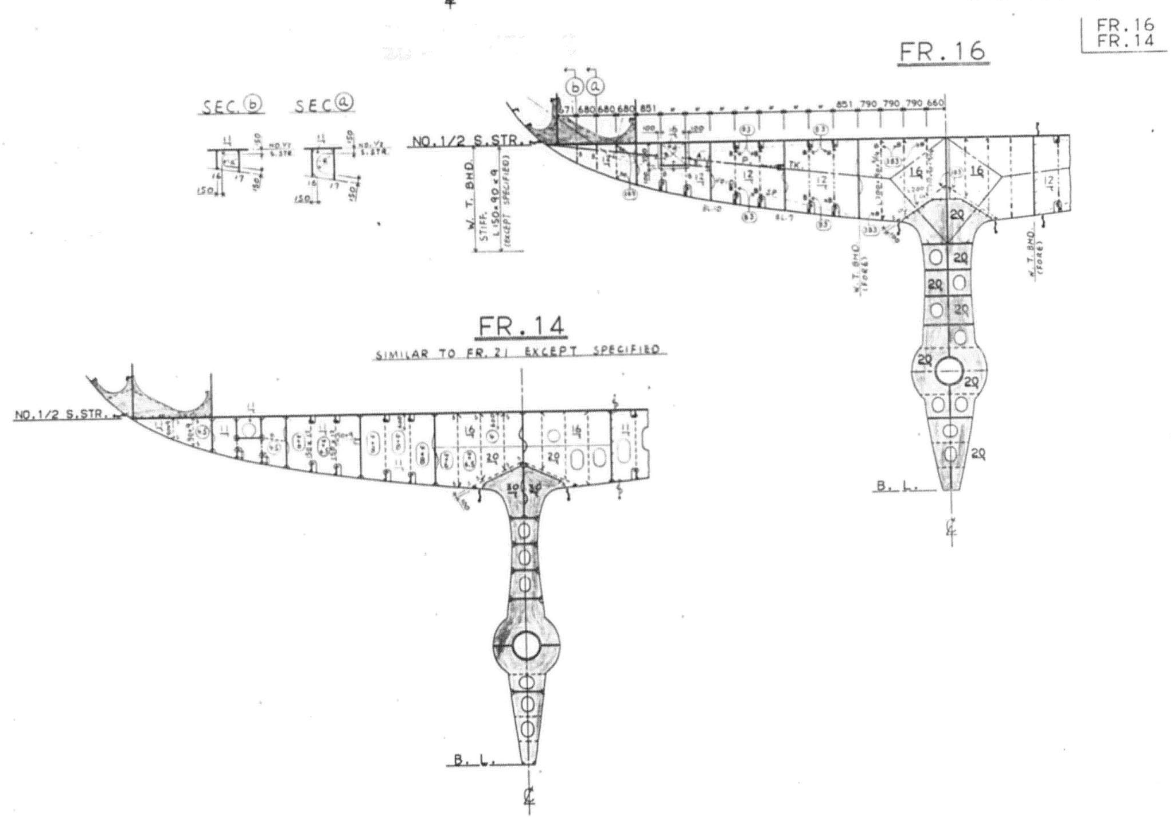
2104101-11/26



2104101-12/26



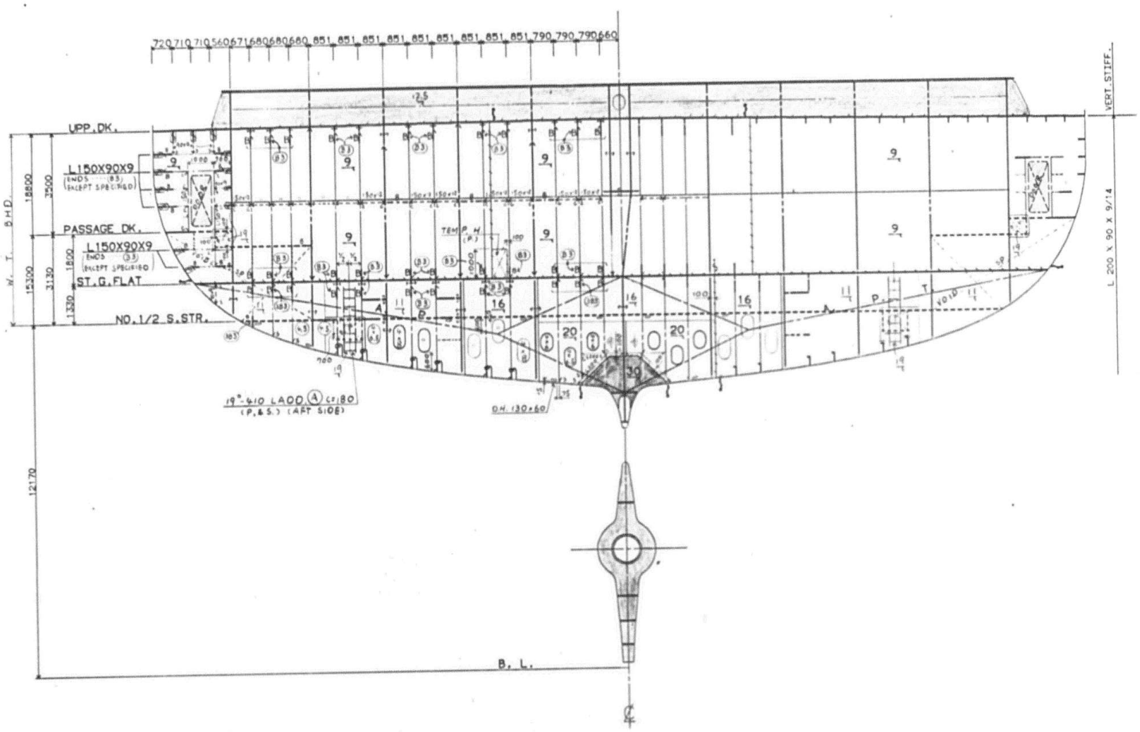
2104101-13/26



2104101-14/26

FR. 12

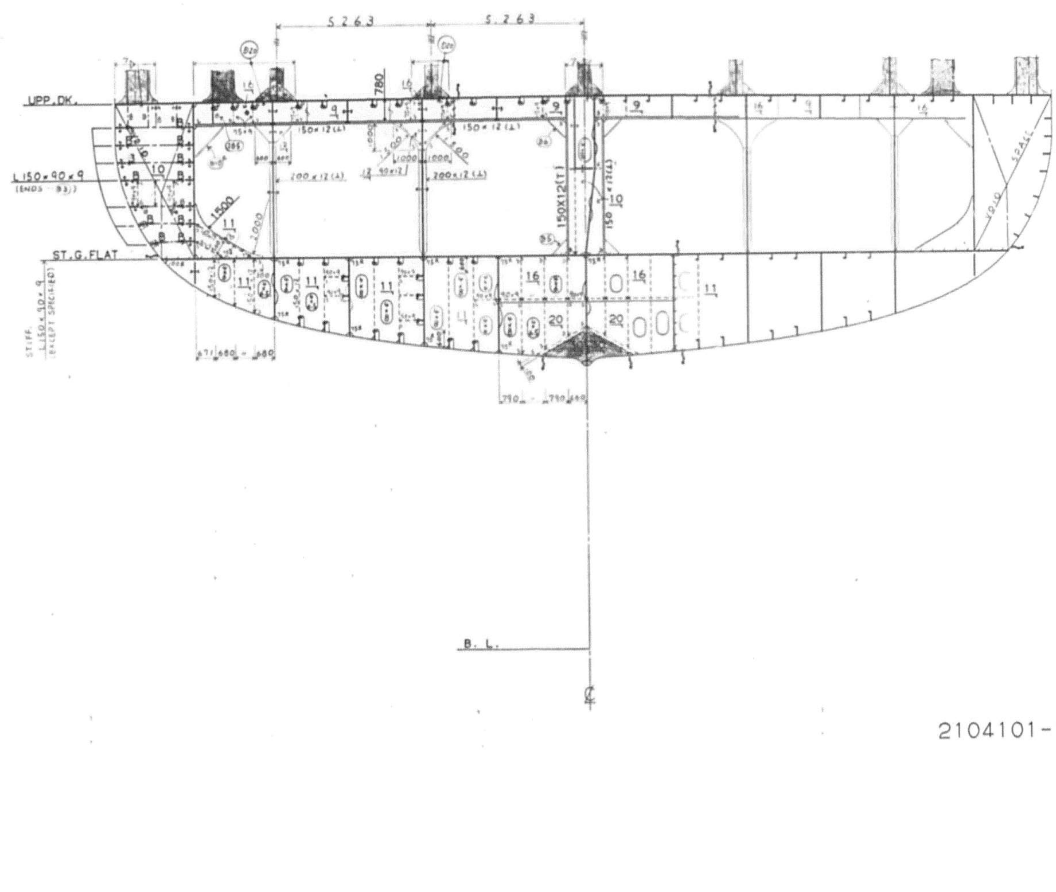
FR. 12



2104101-15/26

FR. 10

FR. 10



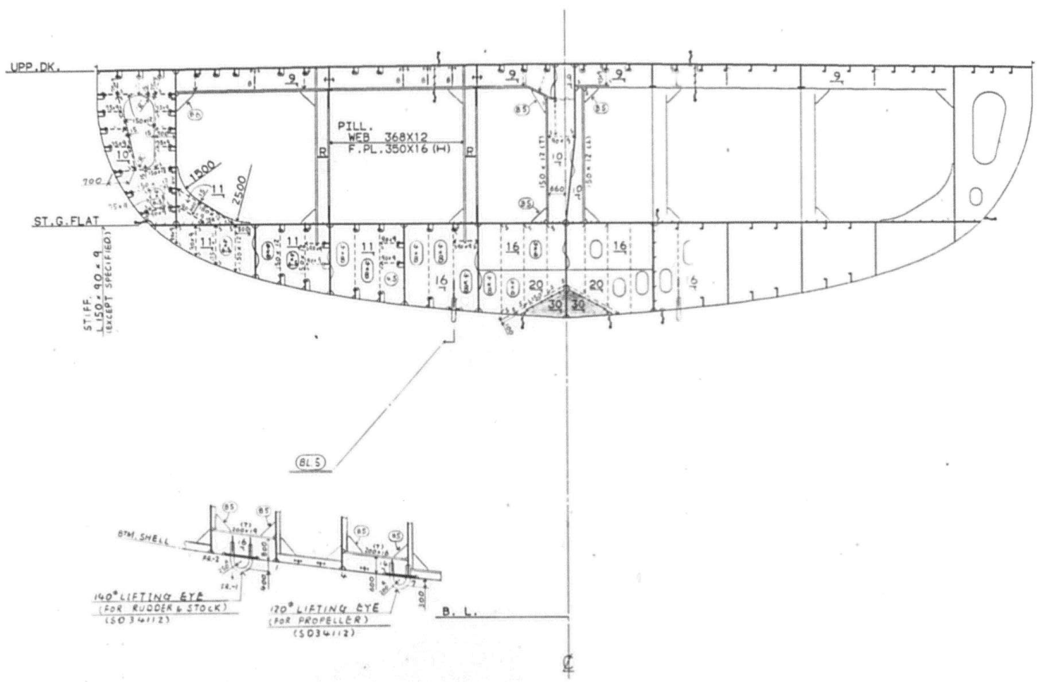
2104101-16/26

419

FR. 7

FR. 7

SIMILAR TO FR. 1 EXCEPT SPECIFIED.

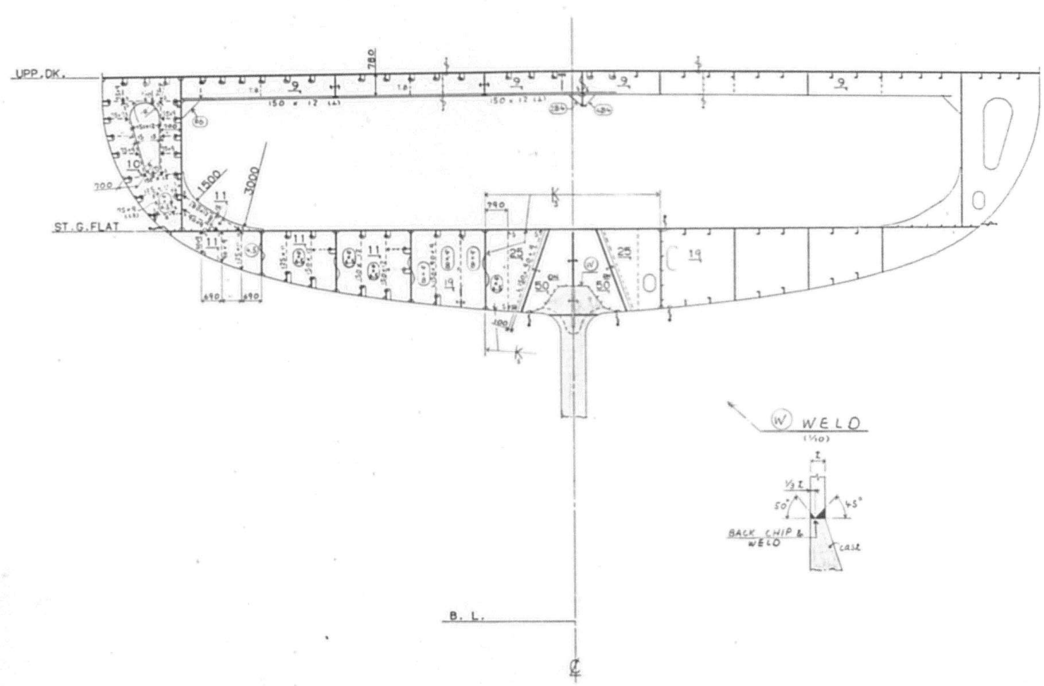


2104101-17/26

FR. 4

FR. 4

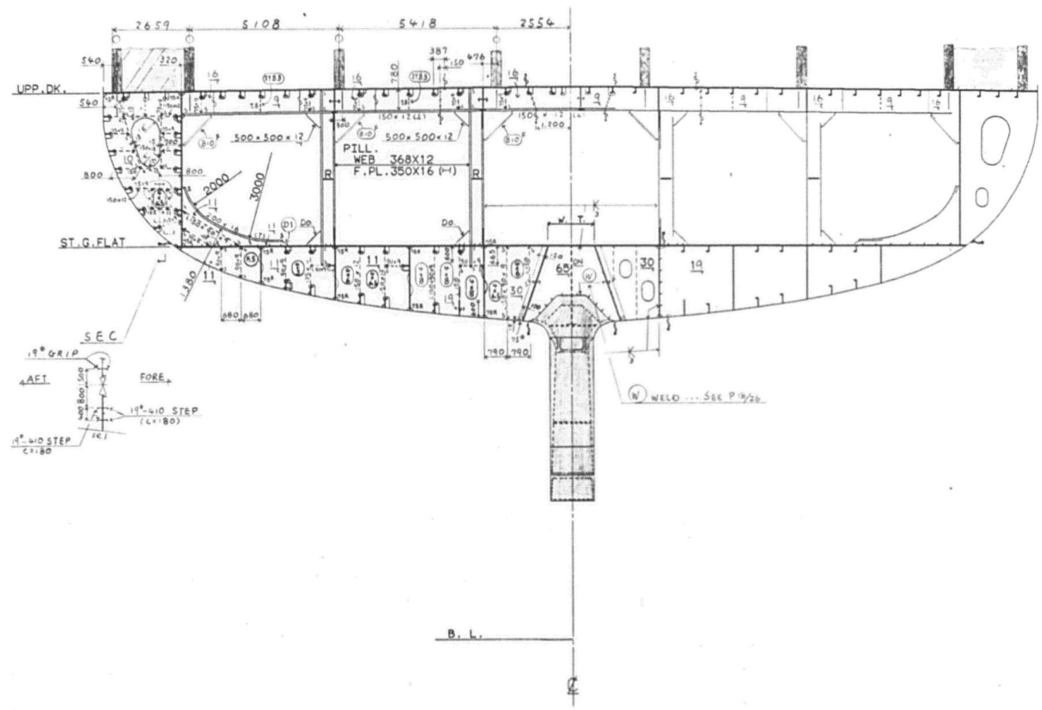
SIMILAR TO FR. 1 EXCEPT SPECIFIED.



2104101-18/26

FR. 1

FR. 1

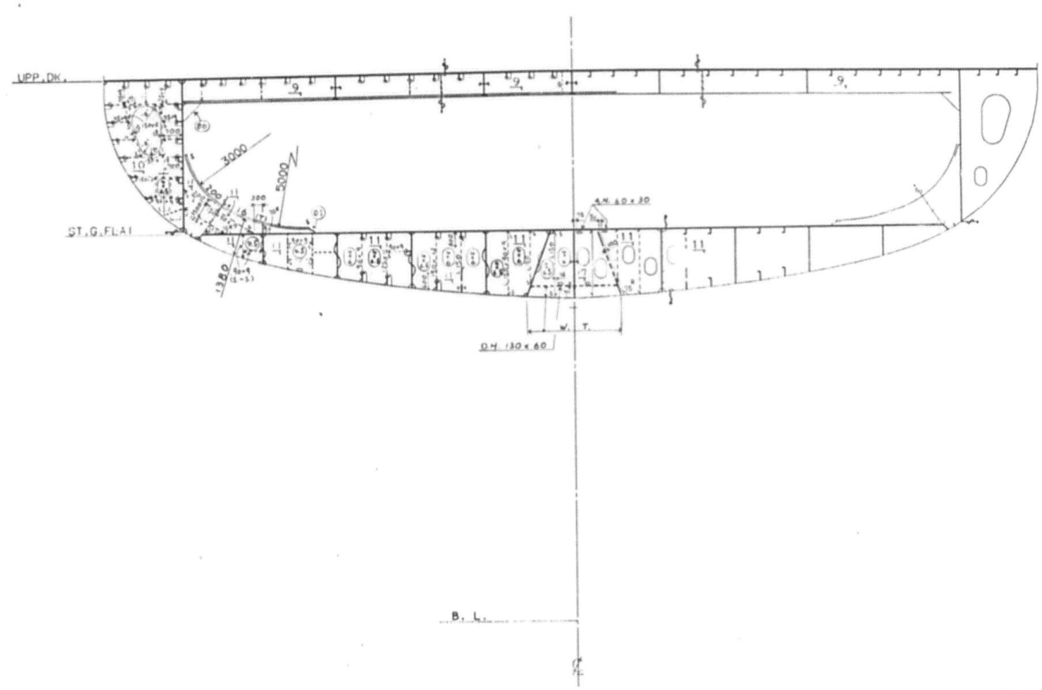


2104101-19/26

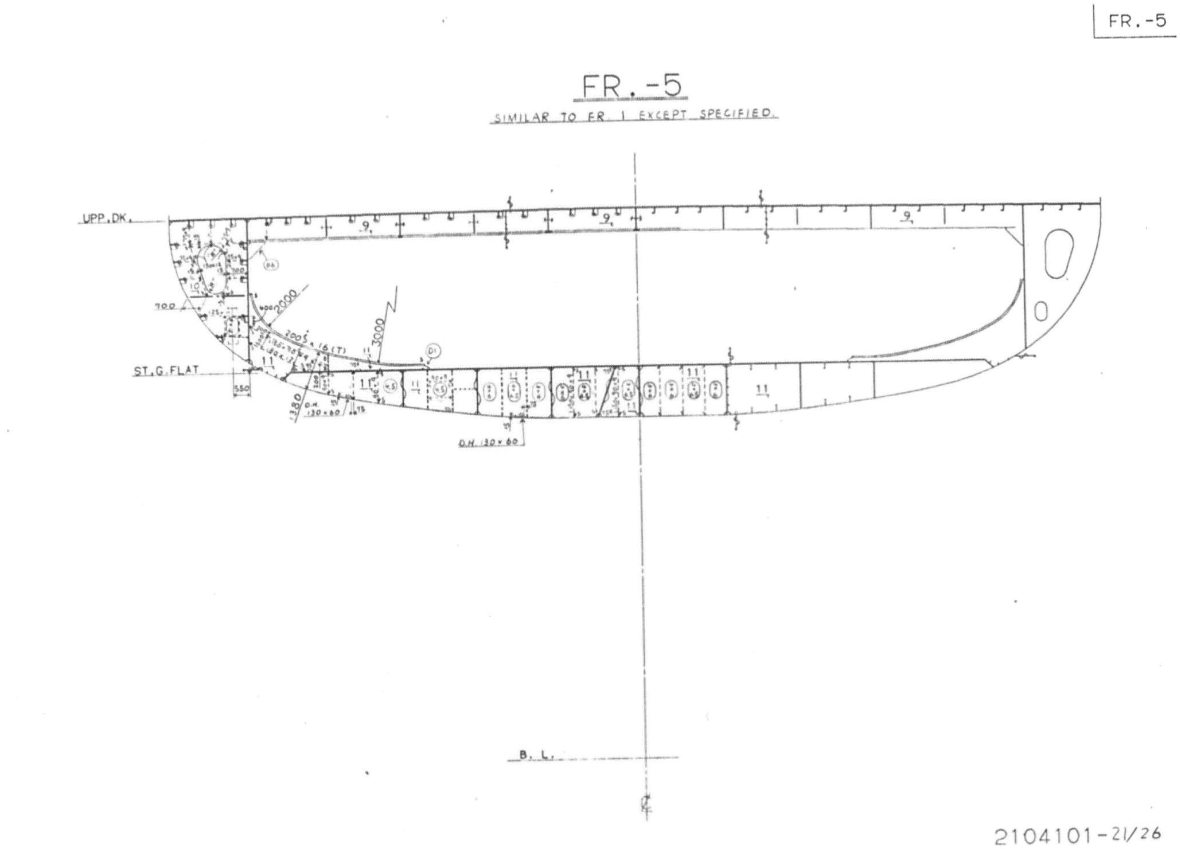
FR. -2

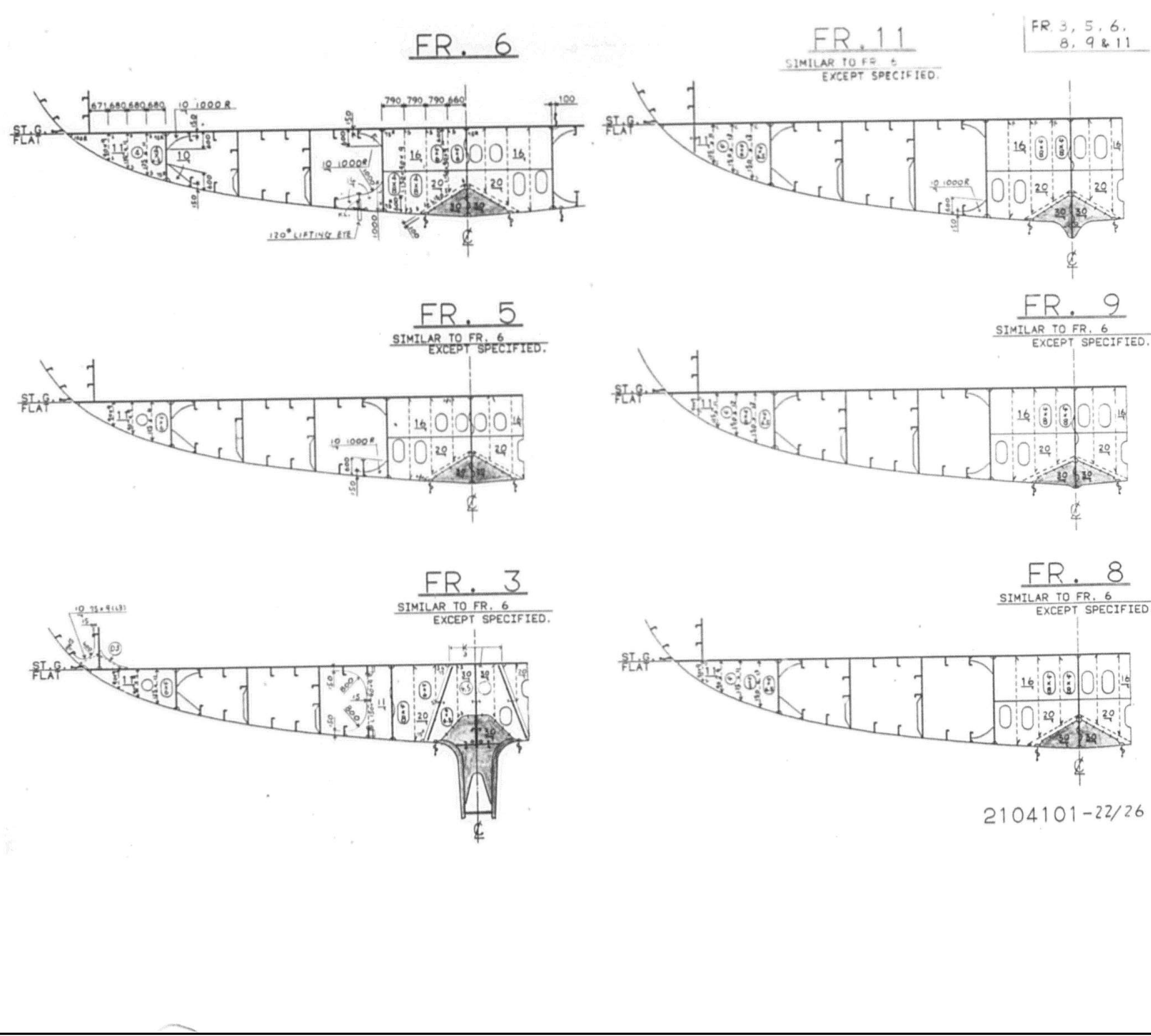
FR. -2

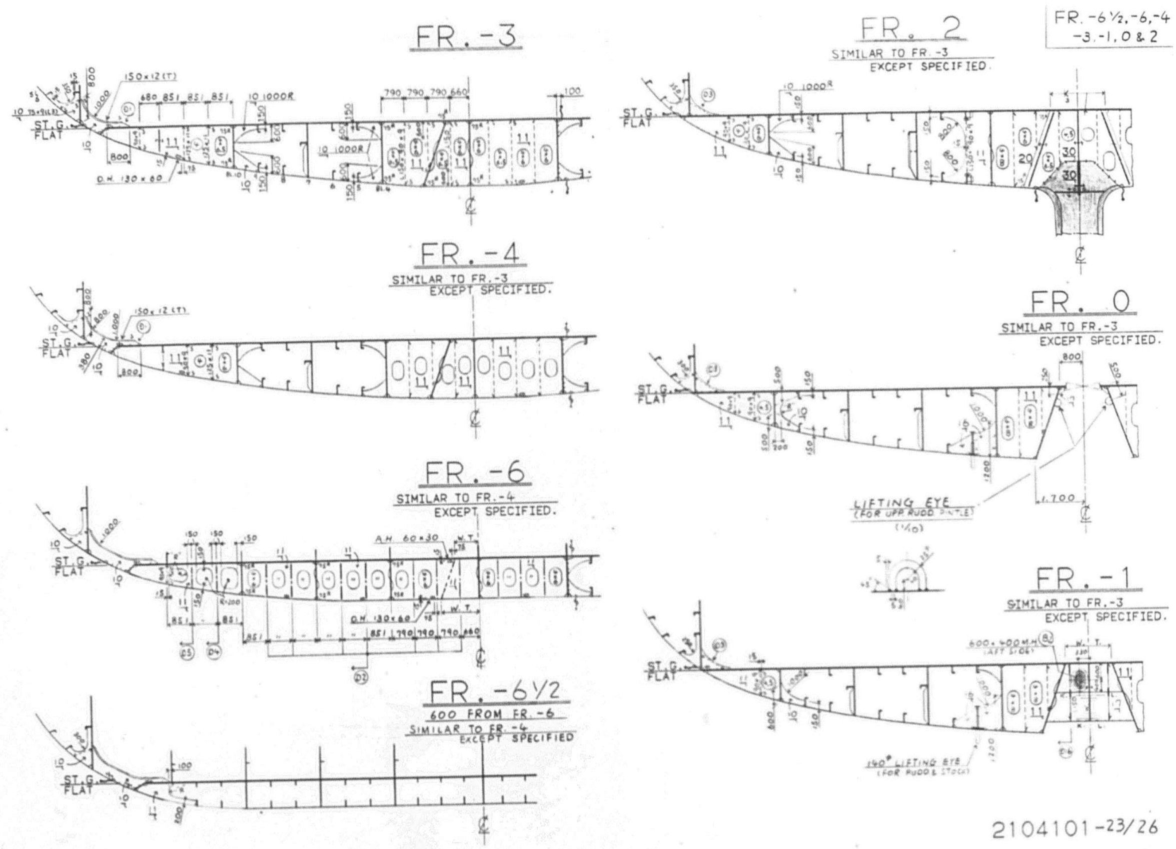
SIMILAR TO FR. 1 EXCEPT SPECIFIED.



2104101-20/26

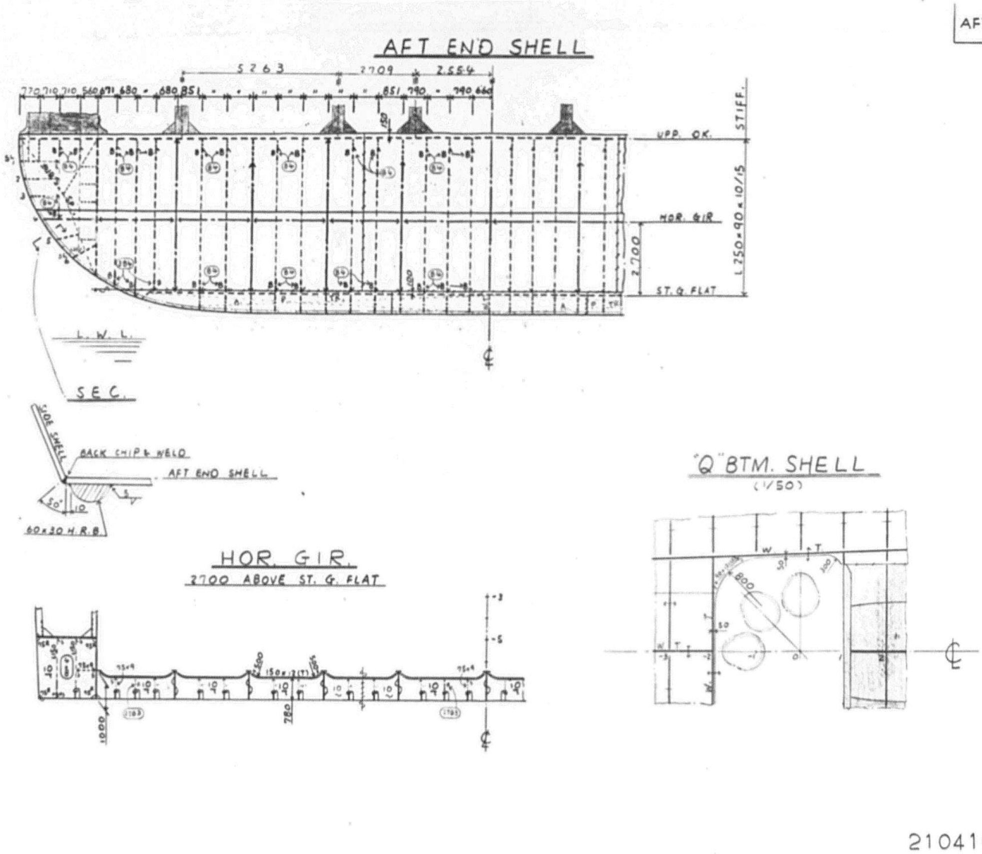

FR.-5
FR.-5
SIMILAR TO FR. 1 EXCEPT SPECIFIED.
UPP.DK.
ST.G.FLAT
B.L.
2104101-21/26


FR.3, 5, 6, 8, 9 & 11
FR. 6
120° LIFTING EYE
FR. 11
SIMILAR TO FR. 6
EXCEPT SPECIFIED.
FR. 5
SIMILAR TO FR. 6
EXCEPT SPECIFIED.
FR. 9
SIMILAR TO FR. 6
EXCEPT SPECIFIED.
FR. 3
SIMILAR TO FR. 6
EXCEPT SPECIFIED.
FR. 8
SIMILAR TO FR. 6
EXCEPT SPECIFIED.
ST.G. FLAT
2104101-22/26

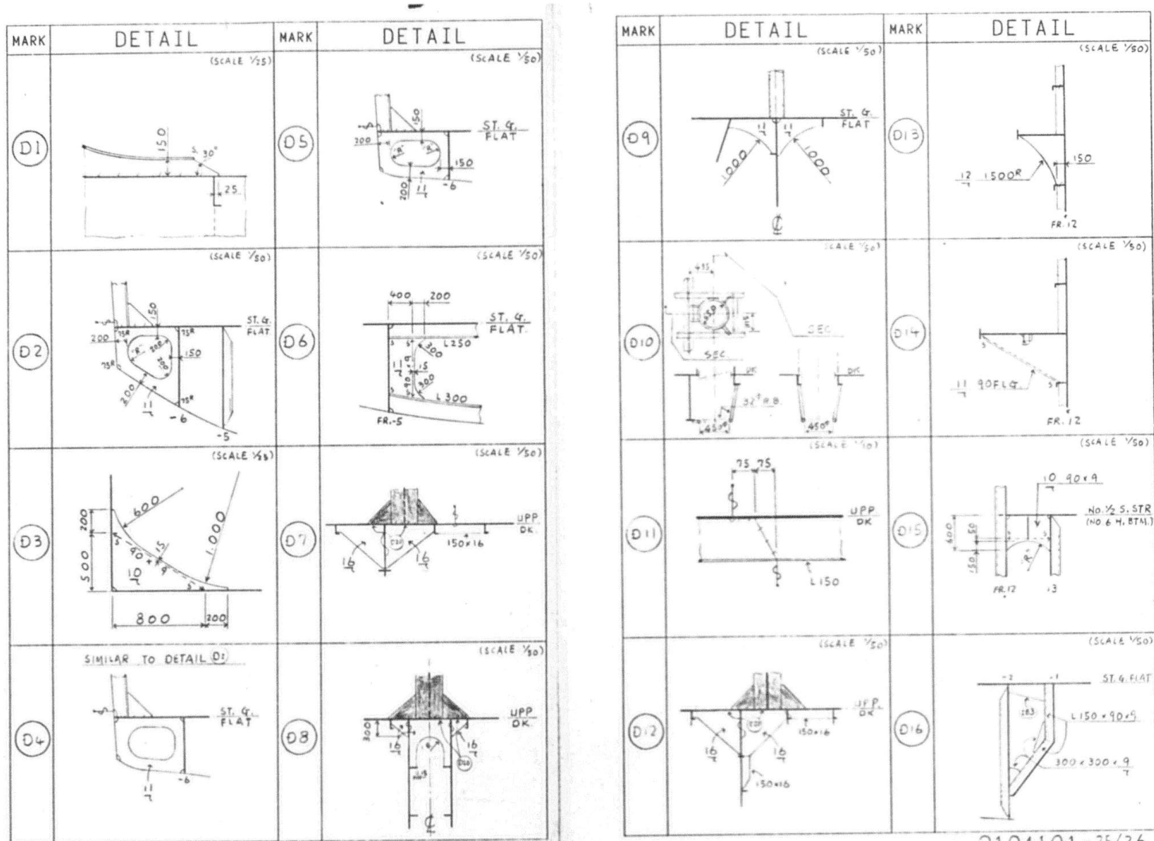


2104101-23/26

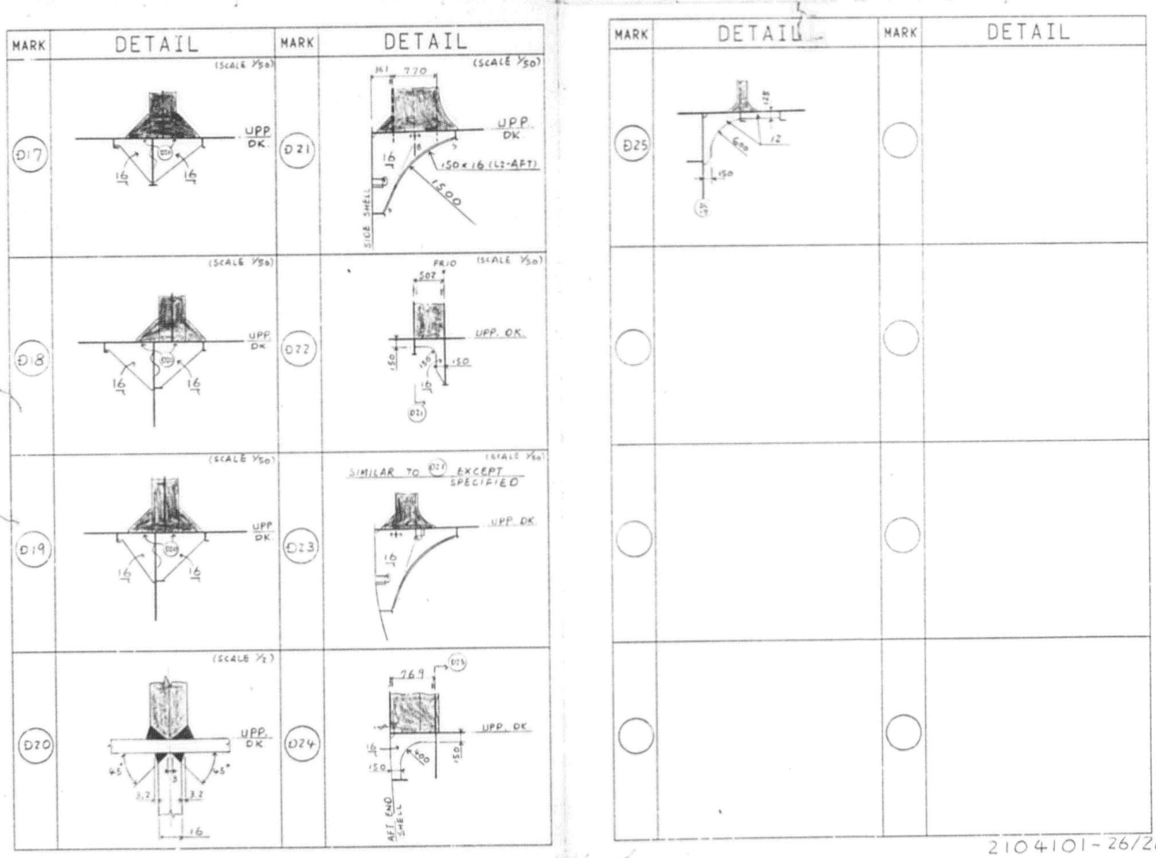
AFT END SHELL



2104101-24/26



2104101-25/26



2104101-26/26

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN	APR. 23.'85	
-10	④	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. ADDED BLOCK JOINTS ON STEERING GEAR FLAT, NO. 1/2 SIDE STRINGER, SIDE SHELL AND FR.12 FLOOR AT PORT SIDE. 2. MODIFIED OR ADDED SLOTS AND ADDED INSERT PLATES ON FLOOR IN RELATION TO ABOVE ITEM. 3. DELETED SEAM JOINTS ON STEERING GEAR FLAT & NO. 1/2 SIDE STRINGER. 4. ADDED BLOCK JOINTS ON C.L. GIRDER. 5. DELETED BUTT JOINTS ON FR. 1 & FR. 10 TRANS WEB. BASED DWG MES DWG NO. 2104101 (INCL. PARTLY REVISED PLAN NO. 1 & NO. 2)	AUG. 2.'85	H.Ko
-11		FOLLOWED MES PARTLY REVISED PLAN NO. 3	AUG. 23.'85	H.Ko
-12		Do. NO. 4	OCT. 24.'85	H.Ko
-13	⑧	MODIFIED RUDDER TRUNK IN RELATION TO MODIFICATION OF RUDDER CARRIER SEAT	NOV. 1.'85	
-14	©	ADDED TEMPORARY WIRE HOLE ON ST. G. FLAT FOR LIFTING OF RUDDER HORN.	MAY. 29.'86	H.Ko
-F	—	PREPARED AS FINISHED PLAN FOR S. No. 1158	MAR. 1.'87	H.Ko

29 SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION	
	APPROVED	CLASS ABS
	CHECKED	船尾構造 AFT CONSTRUCTION
	DRAWN	
	SCALE	
	ORDER 01-15800 ~~01-15900~~ ~~01-16400~~	ITEM / DRAWING NO. HS-34400-F / LYKES REF. NO. 111702

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

0-1

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	11-MAY.'85	?75/...						
PART. REV. PLAN NO. 1								
PART. REV. PLAN NO. 2	8. JUL '85	TAM/13						

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SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~	MITSUBISHI KOBE
NO. 1323 ~~DOCTOR LYKES~~	NO. 1158 JAMES LYKES
NO. 1324 ~~ALMERIA LYKES~~	NO. 1159 ~~JOSEPH LYKES~~
NO. 1325 ~~TILLIE LYKES~~	NO. 1164 ~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER; STRUCTURE DESIGN SEC. — SEC. CHIEF; ASSIST. CHIEF; CHARGE; STAFF
SHIP'S NO. / SHIP'S NAME
PARTLY REVISED PLAN NO 4

船尾構造
AFT CONSTRUCTION

DATE S60-10-17 (TEL 2230)
JOB NO. TS1323/24/25
SCALE 1/100
LYKES REF. NO. 111702
MITSUI DRAWING NO. 2104101-4
(3 SHEETS WITH COVER)

0-2

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS	APR. 10.'85
1	1-1	MISCELLANEOUS RIVISION (DESIGN DEVELOPMENT)	JUN. 10.'85
	1-2	REVISED ACCORDING TO DISCUSSION WITH OWNER DATED 16TH, JAN. 21	J.H
2	2-1	REINFORCEMENT OF UNDER THE CONT. PLAT FORM.	JUN. 24.'85
	2-2	MICELLANEOUS RIVISION	M.O
3	3-1	MICELLANEOUS REVISION	AUG. 5.'85
	3-2	REVISED ACCORDING TO ABS. REQ.	
	3-3	REVISED ACCORDING TO DISCUSSION WITH OWNER IN TAMANO SUPERINTENDENT. (DATED 6TH AUG. '85)	H.Y
4	4	MICELLANEOUS REVISION (REVISED FOR THE INTERSECTION BETWEEN STIFF & PIPE)	OCT. 12.'85 Y.H

2104101- 1

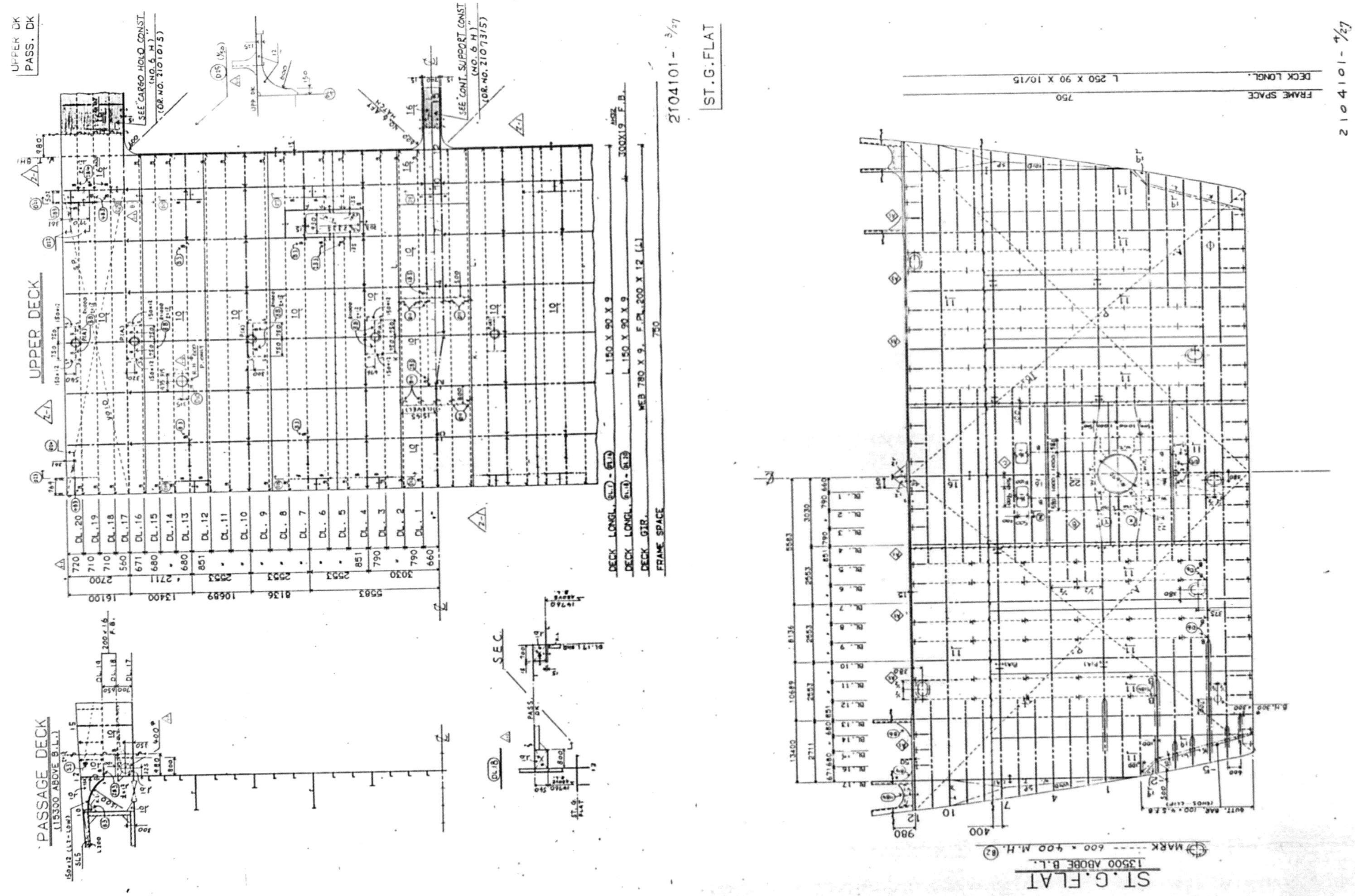
NOTES:-

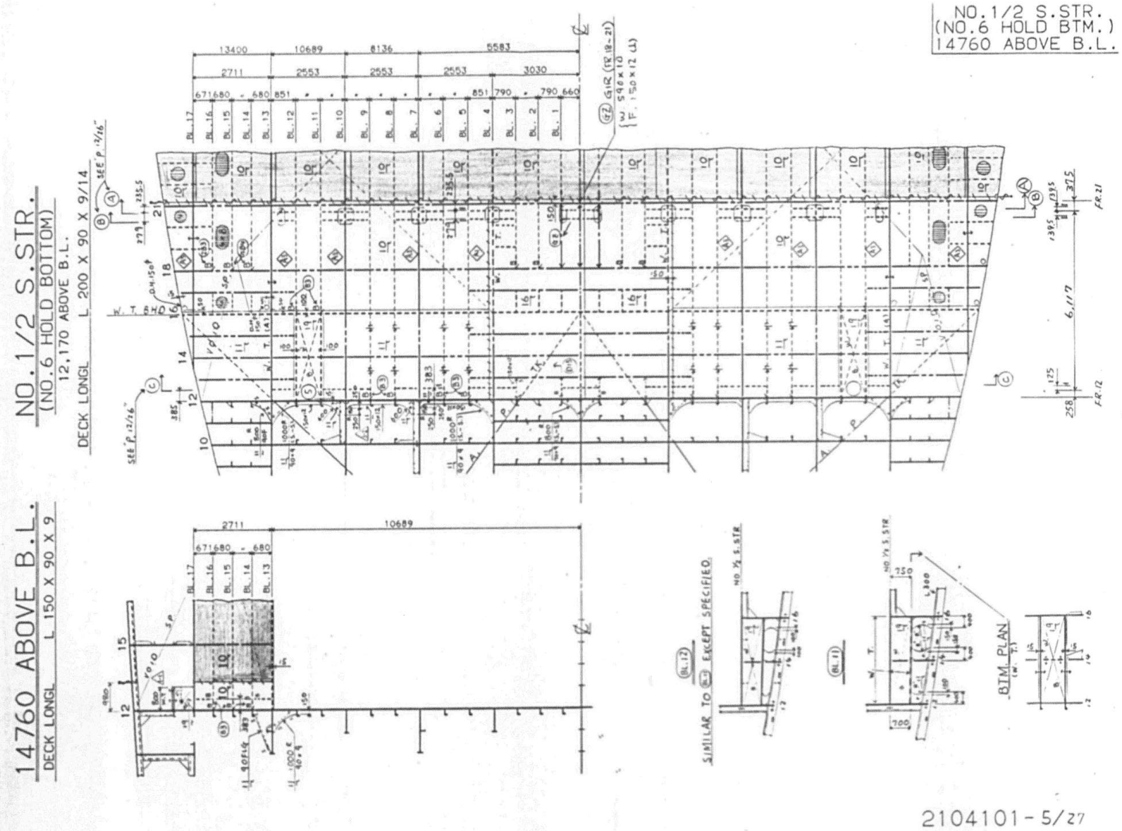
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

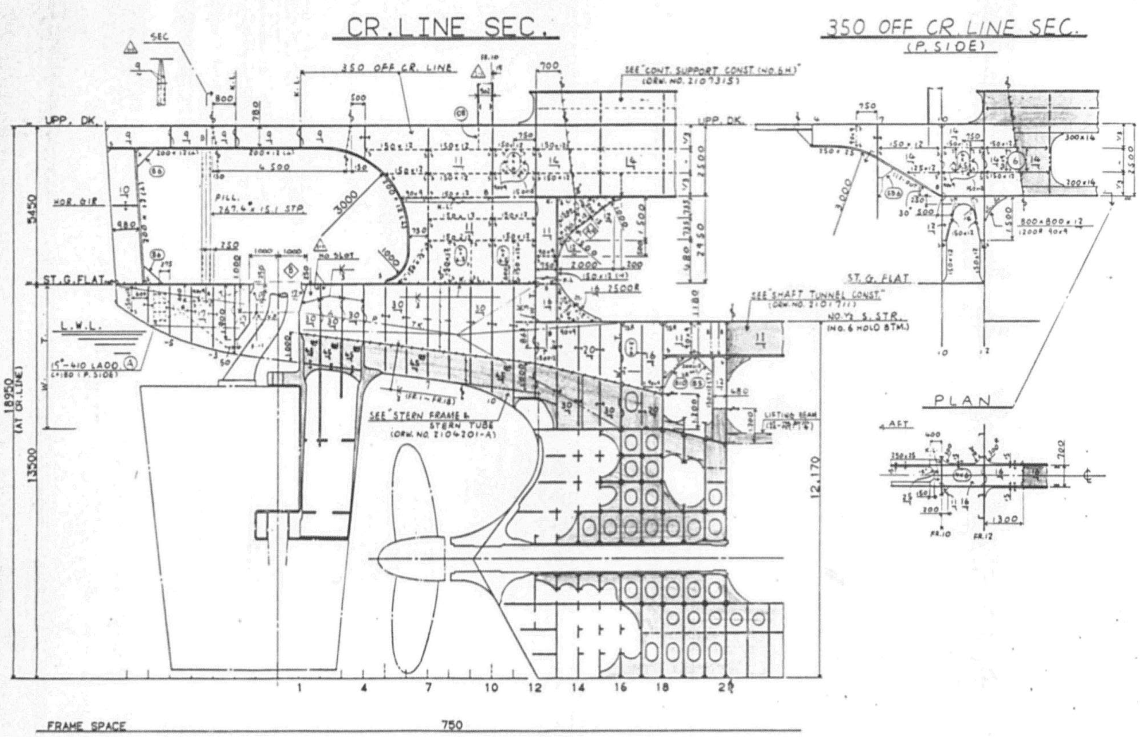
備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番2100811）」を参照のこと。
4. 溶接脚長については，特記の他は「溶接脚長表（図番2100832）」を参照のこと。

2104101-2/27

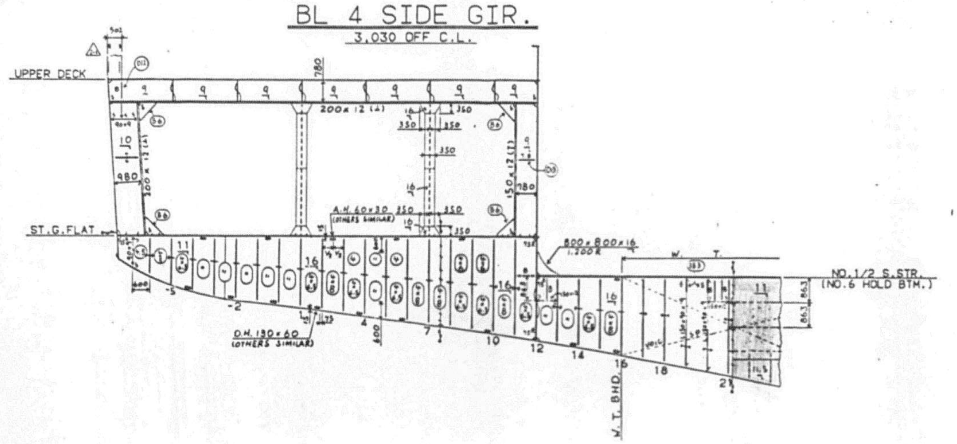

UPPER DECK
PASSAGE DECK
(15300 ABOVE B.L.)
UPPER DK
PASS. DK
SEE "CARGO HOLD CONST (NO.6 H.)" (DR.NO. 2101015)
SEE "CONT. SUPPORT CONST (NO.6 H.)" (DR.NO. 2107315)
2104101- 3/27
ST.G.FLAT
DECK LONGL. L 150 X 90 X 9
DECK LONGL. L 150 X 90 X 9
DECK GIR. WEB 780 X 9, F.PL 200 X 12
FRAME SPACE 750
S.E.C.
ST.G.FLAT
13500 ABOVE B.L.
MARK 600 × 400 M.H.
DECK LONGL. L 250 X 90 X 10/15
FRAME SPACE 750
2104101- 4/27


NO.1/2 S.STR.
(NO.6 HOLD BTM.)
14760 ABOVE B.L.
NO.1/2 S.STR.
(NO.6 HOLD BOTTOM)
12,170 ABOVE B.L.
DECK LONGL L 200 X 90 X 9/14
14760 ABOVE B.L.
DECK LONGL L 150 X 90 X 9
SIMILAR TO (BL.11) EXCEPT SPECIFIED.
BTM. PLAN
2104101-5/27


CR. LINE SEC.
CR. LINE SEC.
350 OFF CR. LINE SEC.
(P. SIDE)
UPP. DK.
ST. G. FLAT
L.W.L.
PLAN
FRAME SPACE
750
18950 (AT CR. LINE)
2104101-6/27

BL 4 SIDE GIR.

3,030 OFF C.L.

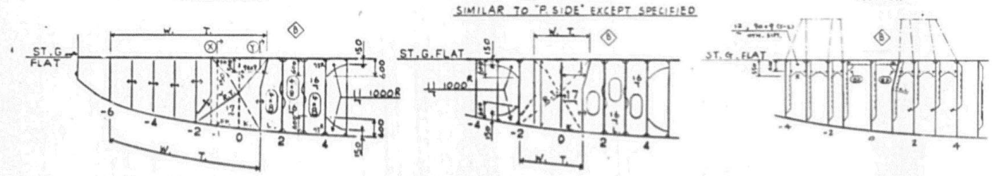


RUDDER TRUNK SIDE GIR. (P. SIDE)

RUDDER TRUNK SIDE GIR. (S. SIDE)

SIMILAR TO "P. SIDE" EXCEPT SPECIFIED

Ⓩ SEC. (P. & S.)

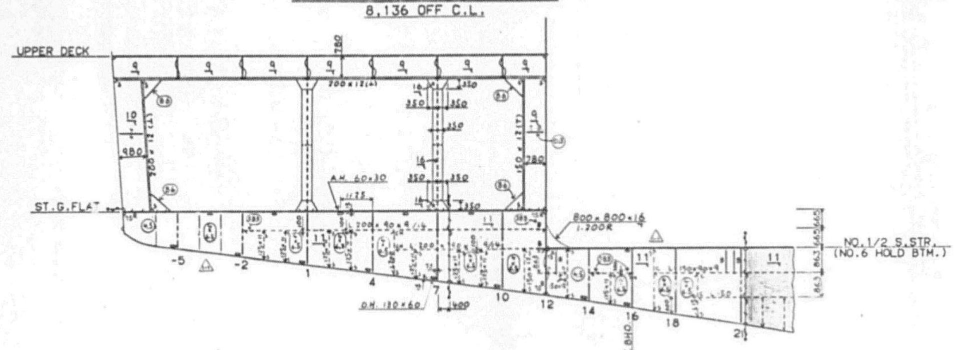


2104101-7/27

BL.10 SIDE GIR.
BL. 7 SIDE GIR.

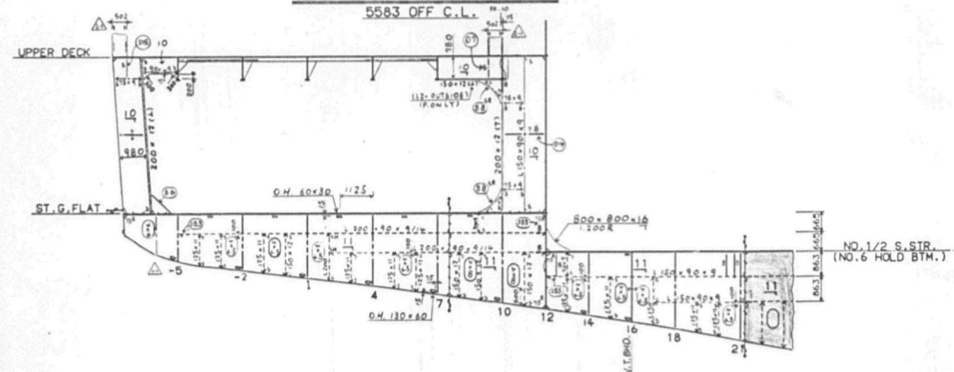
BL 10 SIDE GIR.

8,136 OFF C.L.

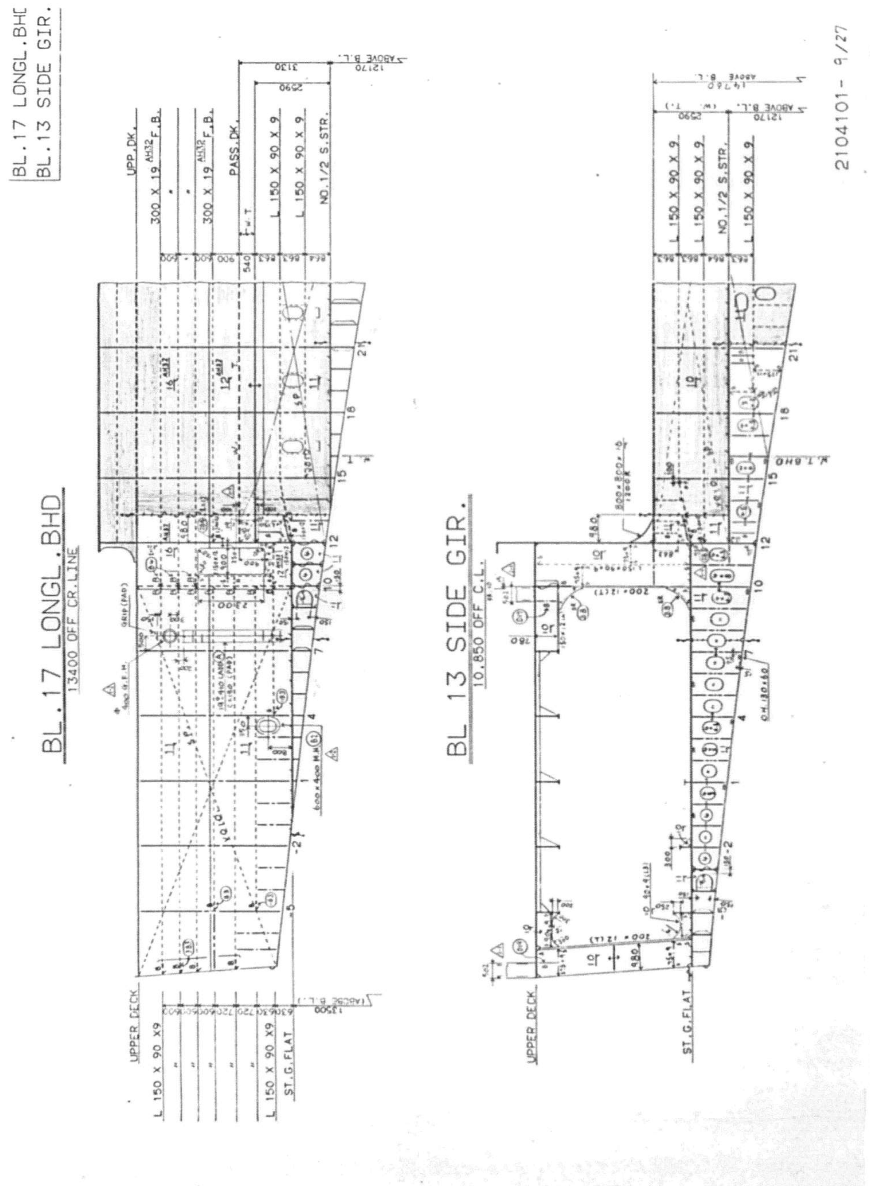


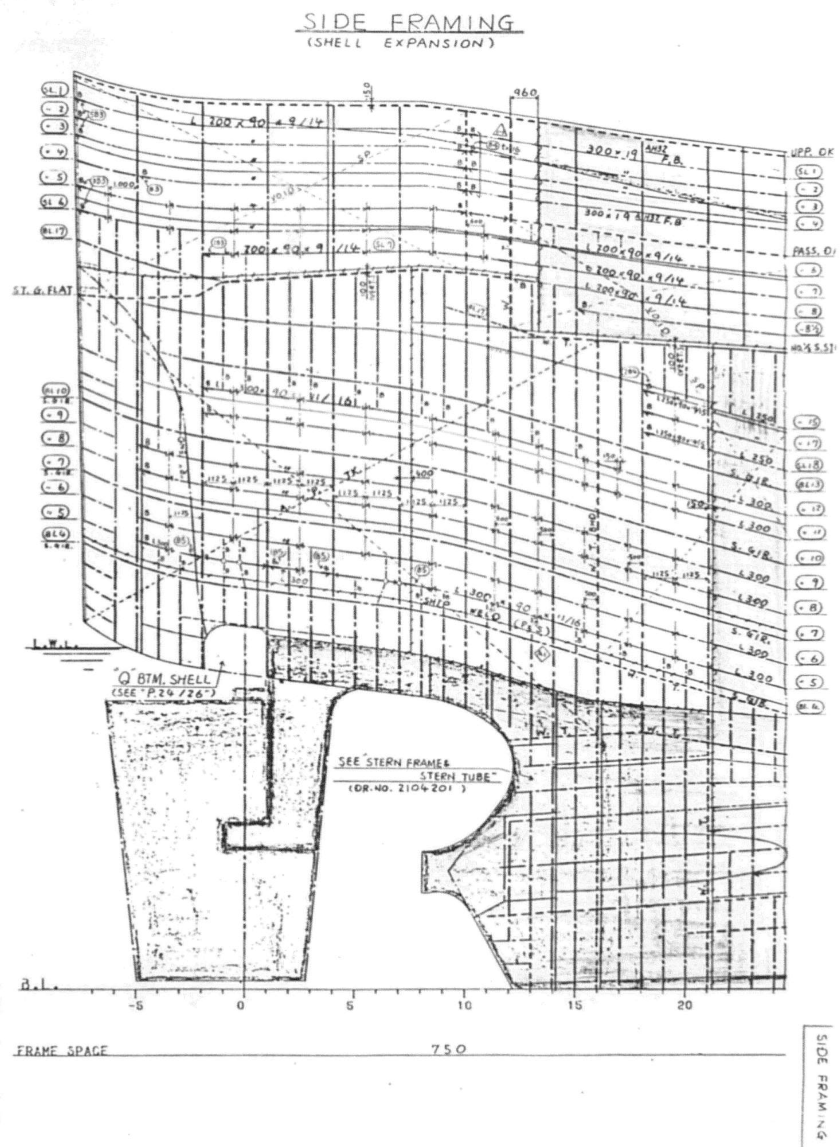
BL 7 SIDE GIR.

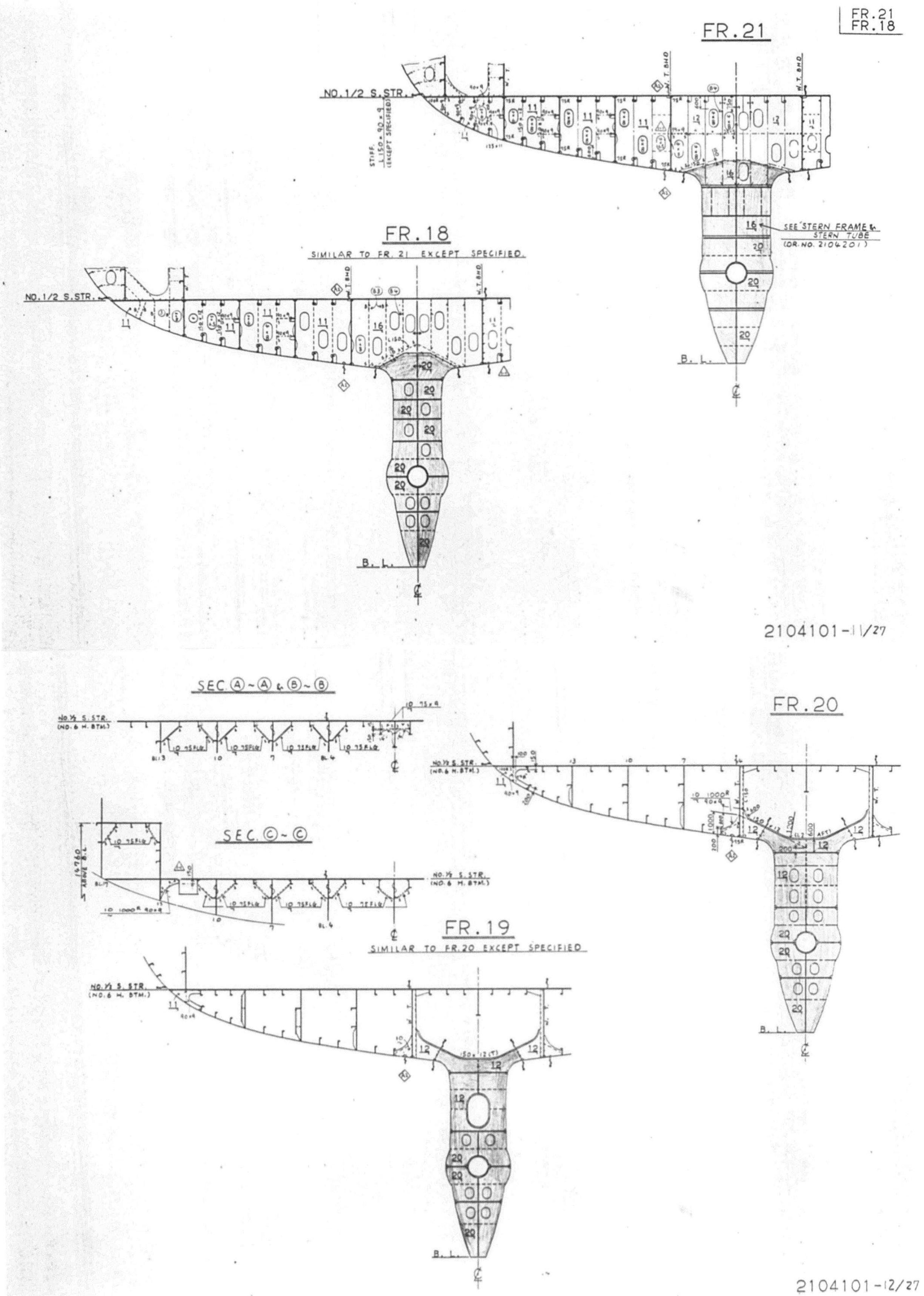
5583 OFF C.L.



2104101- 8/27

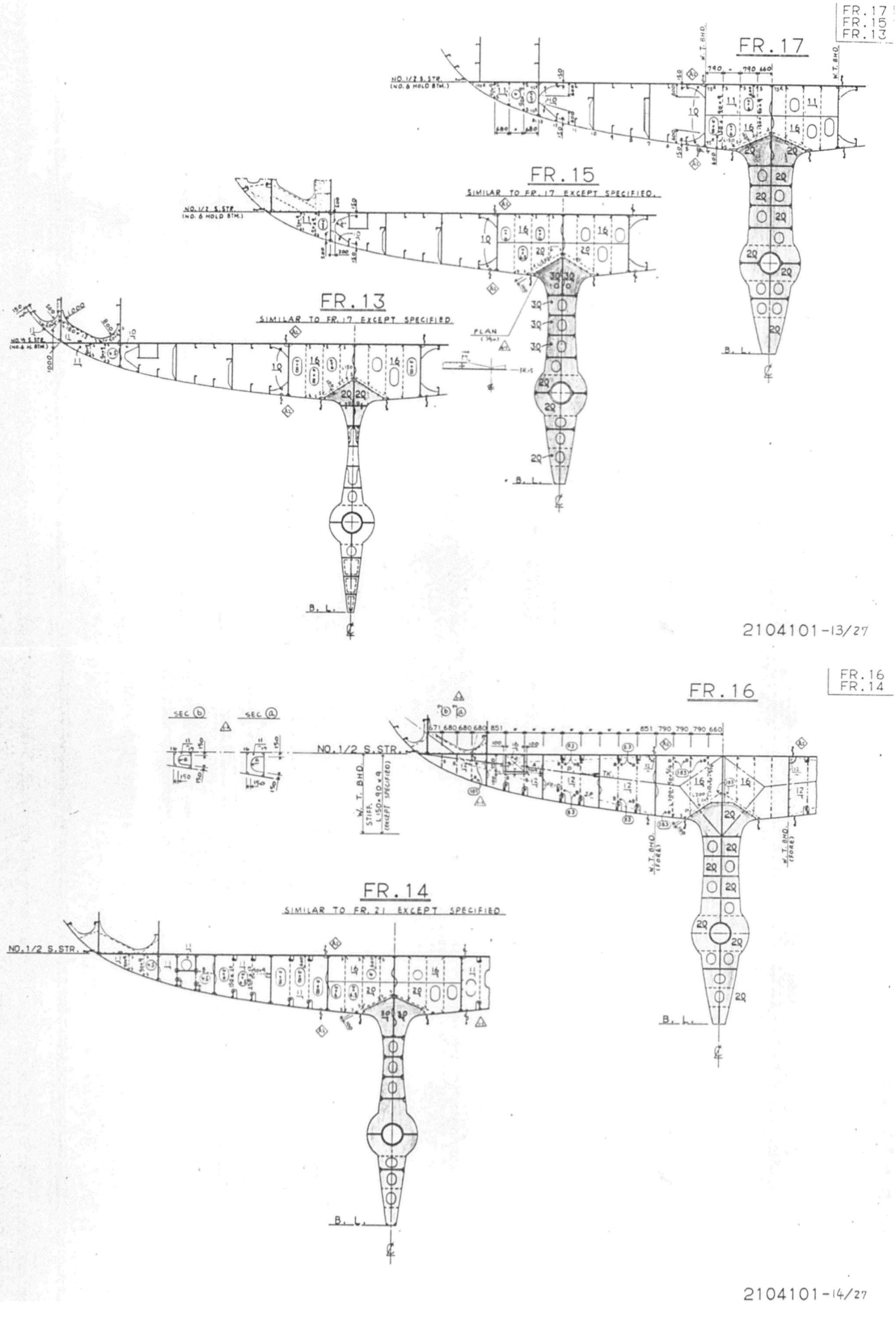

BL.17 LONGL.BHD
BL.13 SIDE GIR.
BL. 17 LONGL. BHD
13400 OFF CR.LINE
BL 13 SIDE GIR.
10,850 OFF C.L.
UPPER DECK
ST.G.FLAT
2104101 - 9/27
2104101 - 10/27


SIDE FRAMING
(SHELL EXPANSION)
UPP. DK
PASS. DK
ST. G. FLAT
"Q" BTM. SHELL
(SEE "P.24/26")
SEE "STERN FRAME & STERN TUBE"
(DR. NO. 2104201)
B.L.
FRAME SPACE
750
SIDE FRAMING

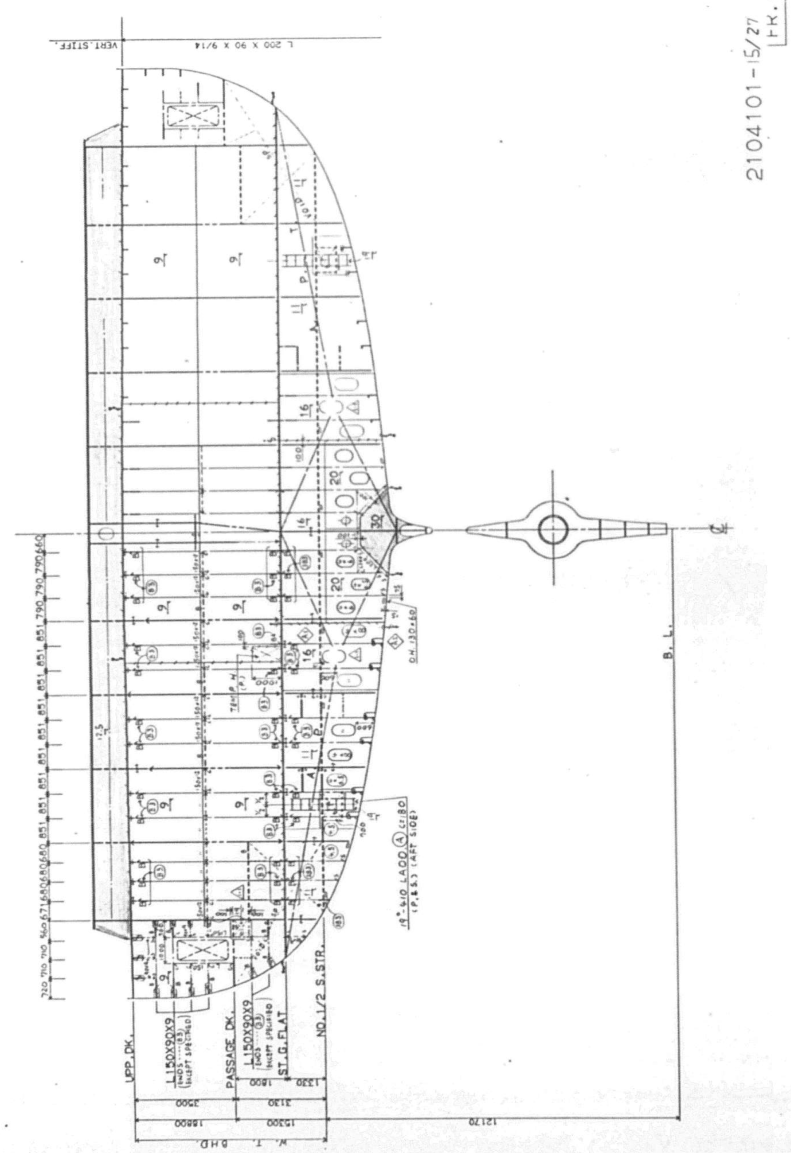


FR.21
FR.18
FR.21
NO.1/2 S.STR.
STIFF. L150×90×9 (EXCEPT SPECIFIED)
W.T.BHD
SEE 'STERN FRAME & STERN TUBE' (DR.NO. 2104201)
B.L.
FR.18
SIMILAR TO FR.21 EXCEPT SPECIFIED.
NO.1/2 S.STR.
2104101-11/27
SEC.Ⓐ~Ⓐ & Ⓑ~Ⓑ
SEC.Ⓒ~Ⓒ
FR.20
NO.½ S.STR. (NO.6 H.BTM.)
FR.19
SIMILAR TO FR.20 EXCEPT SPECIFIED
NO.½ S.STR. (NO.6 H.BTM.)
B.L.
2104101-12/27

430

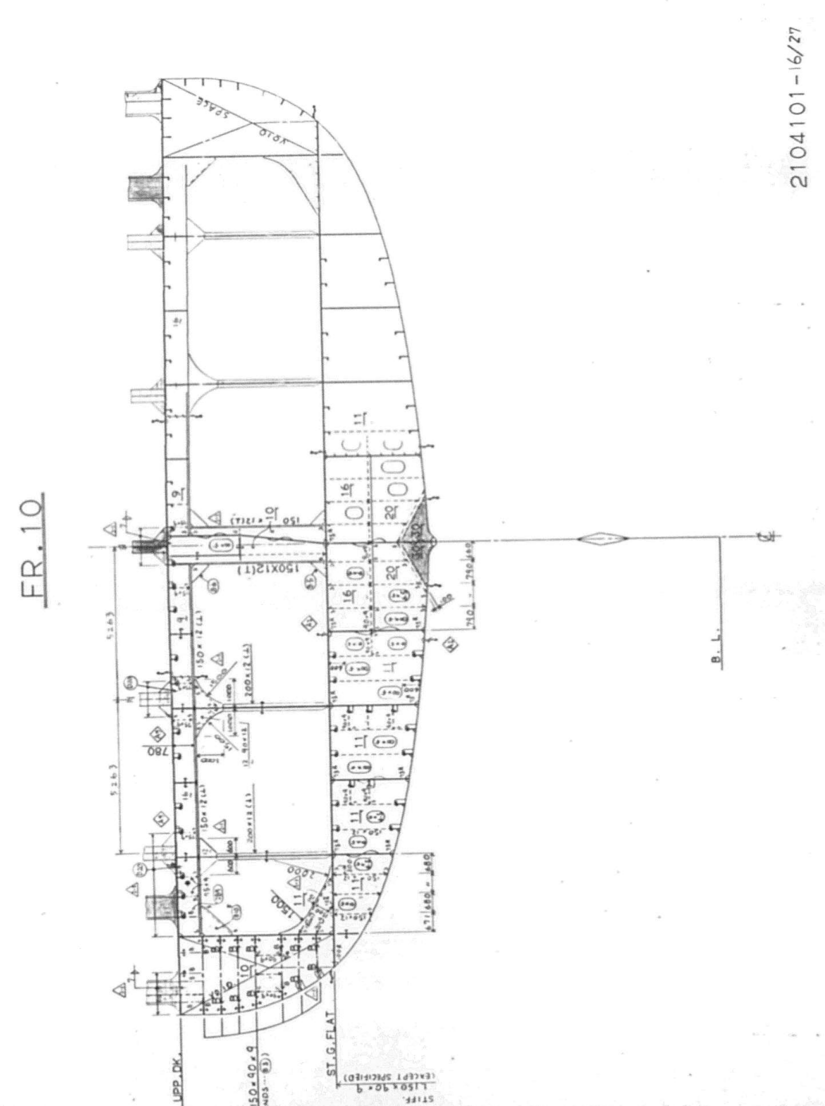

FR.17
FR.15
FR.13
FR.17
FR.15
SIMILAR TO FR.17 EXCEPT SPECIFIED.
FR.13
SIMILAR TO FR.17 EXCEPT SPECIFIED
2104101-13/27
FR.16
FR.14
FR.16
NO.1/2 S.STR.
W. T. BHD
STIFF. L150×90×9 (EXCEPT SPECIFIED)
SEC ⓑ
SEC ⓐ
FR.14
SIMILAR TO FR.21 EXCEPT SPECIFIED
NO.1/2 S.STR.
B.L.
2104101-14/27

FR. 12



2104101-15/27
UPP. DK.
PASSAGE DK.
ST. G. FLAT
NO. 1/2 S. STR.
B. L.

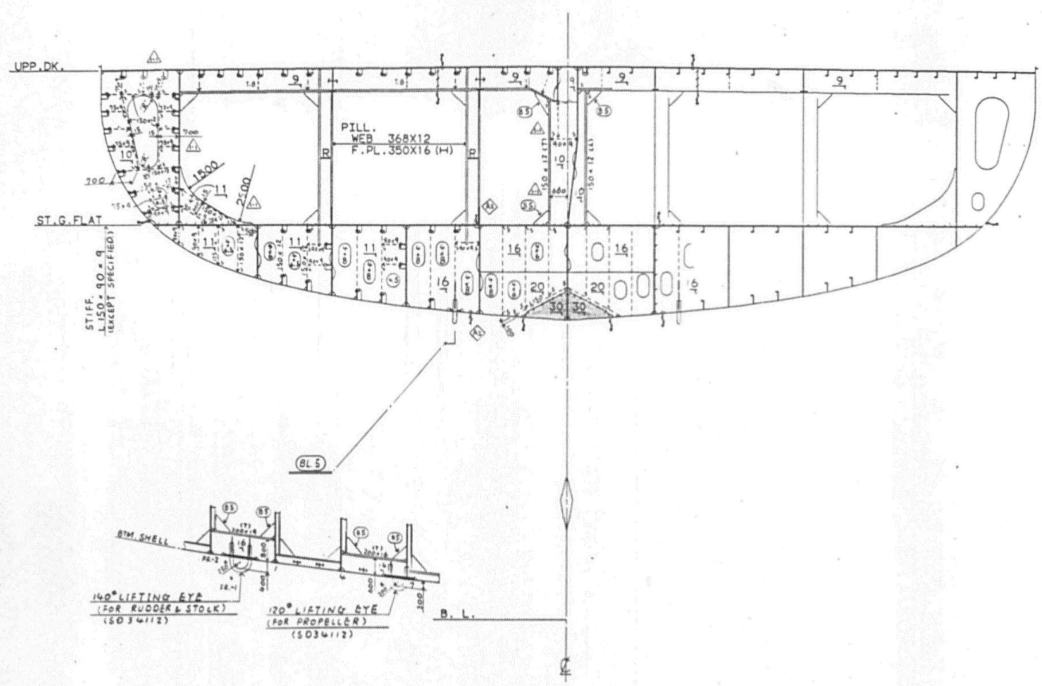
FR. 10



2104101-16/27
UPP. DK.
ST. G. FLAT
B. L.

FR. 7

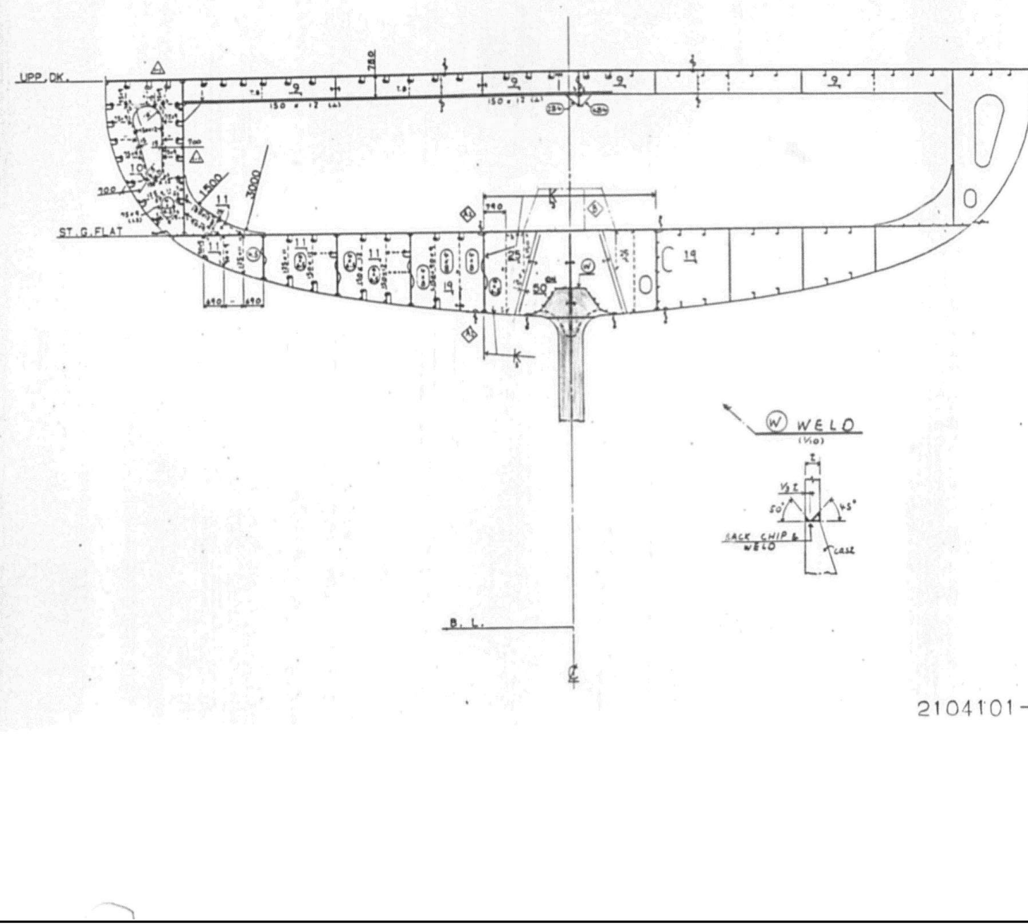
SIMILAR TO FR. 1 EXCEPT SPECIFIED.



2104101-17/27

FR. 4

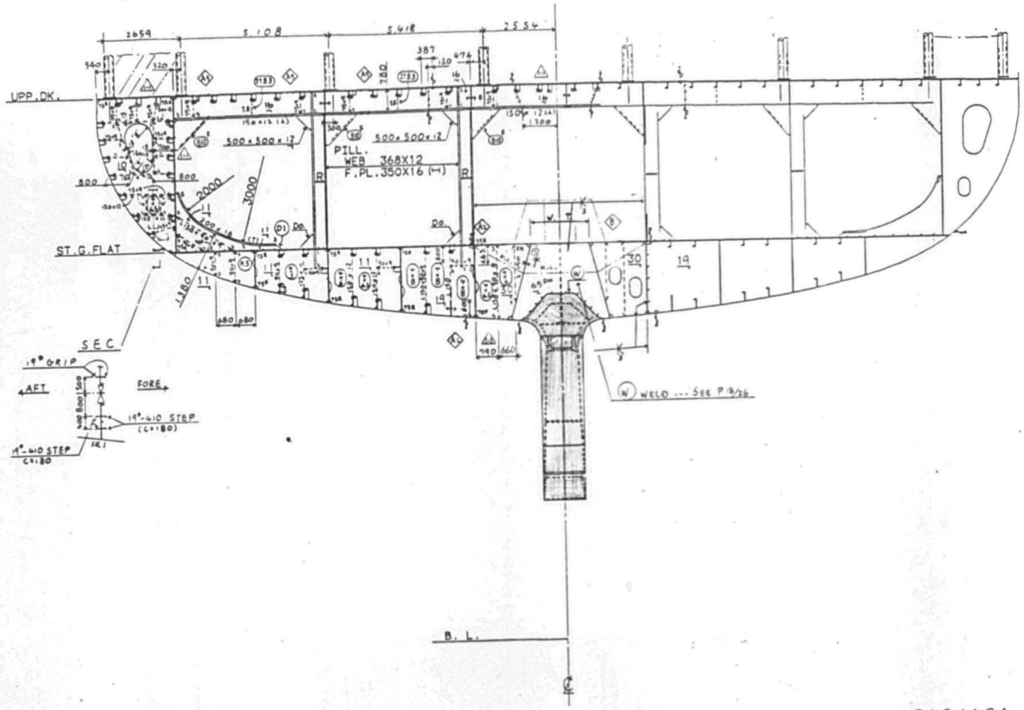
SIMILAR TO FR. 1 EXCEPT SPECIFIED.



2104101-18/27

FR. 1

FR. 1

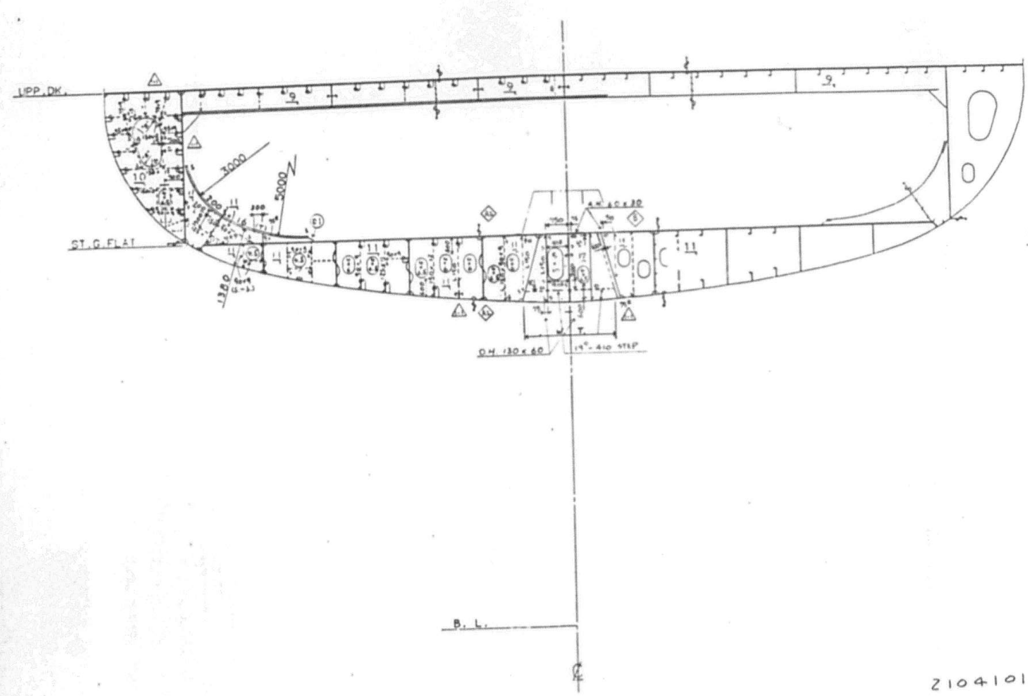


2104101-19/27

FR. -2

FR. -2

SIMILAR TO FR. 1 EXCEPT SPECIFIED.

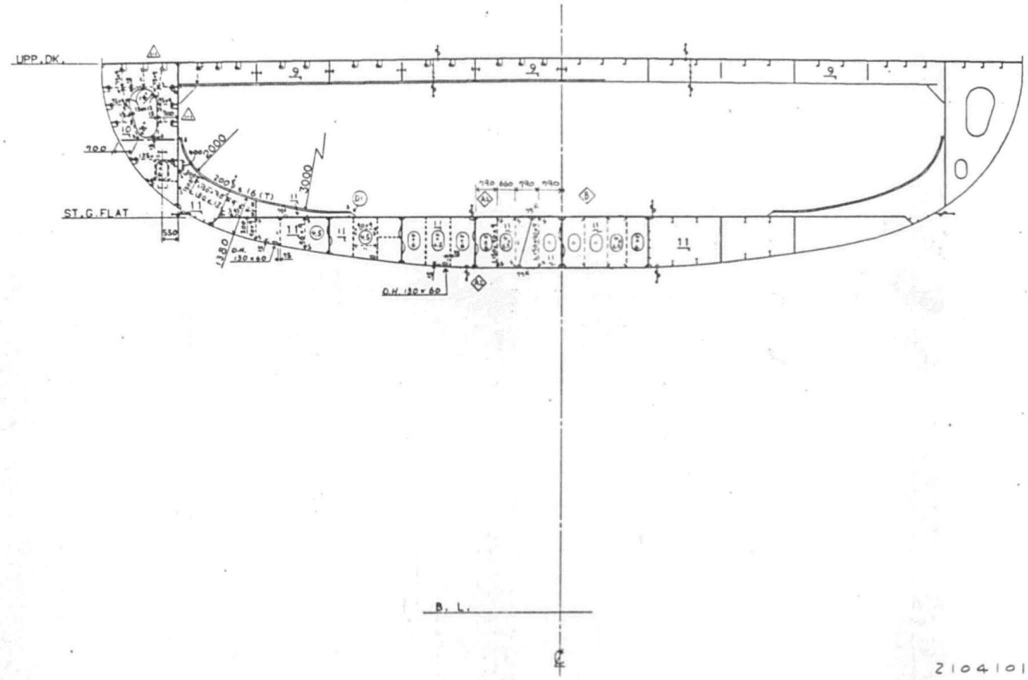


2104101-20/27

FR.-5

FR.-5

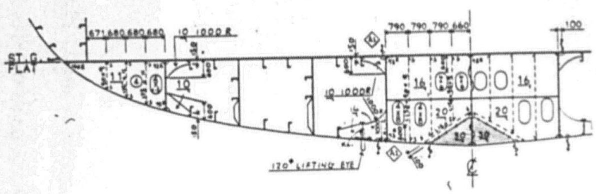
SIMILAR TO FR. 1 EXCEPT SPECIFIED.



2104101-21/27

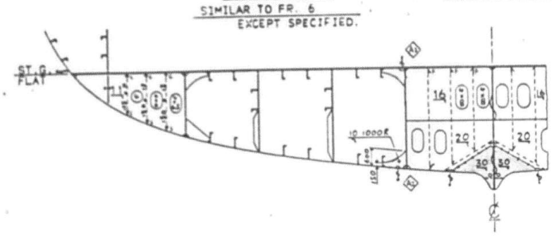
FR. 3, 5, 6, 8, 9 & 11

FR. 6



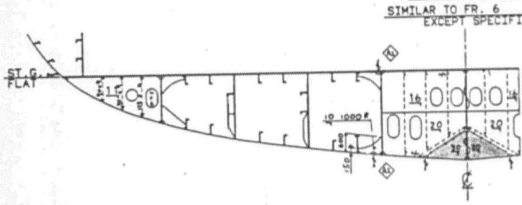
FR. 11

SIMILAR TO FR. 6
EXCEPT SPECIFIED.



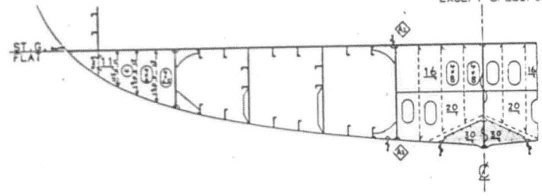
FR. 5

SIMILAR TO FR. 6
EXCEPT SPECIFIED.



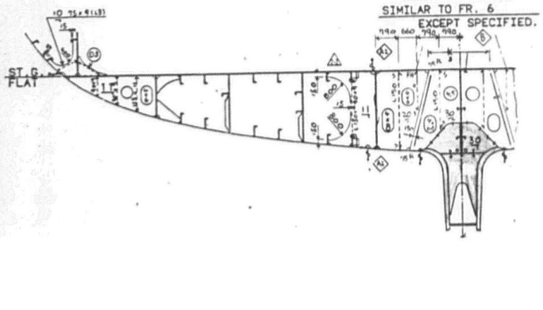
FR. 9

SIMILAR TO FR. 6
EXCEPT SPECIFIED.



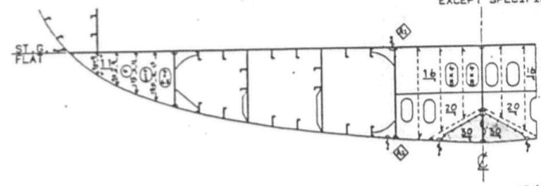
FR. 3

SIMILAR TO FR. 6
EXCEPT SPECIFIED.

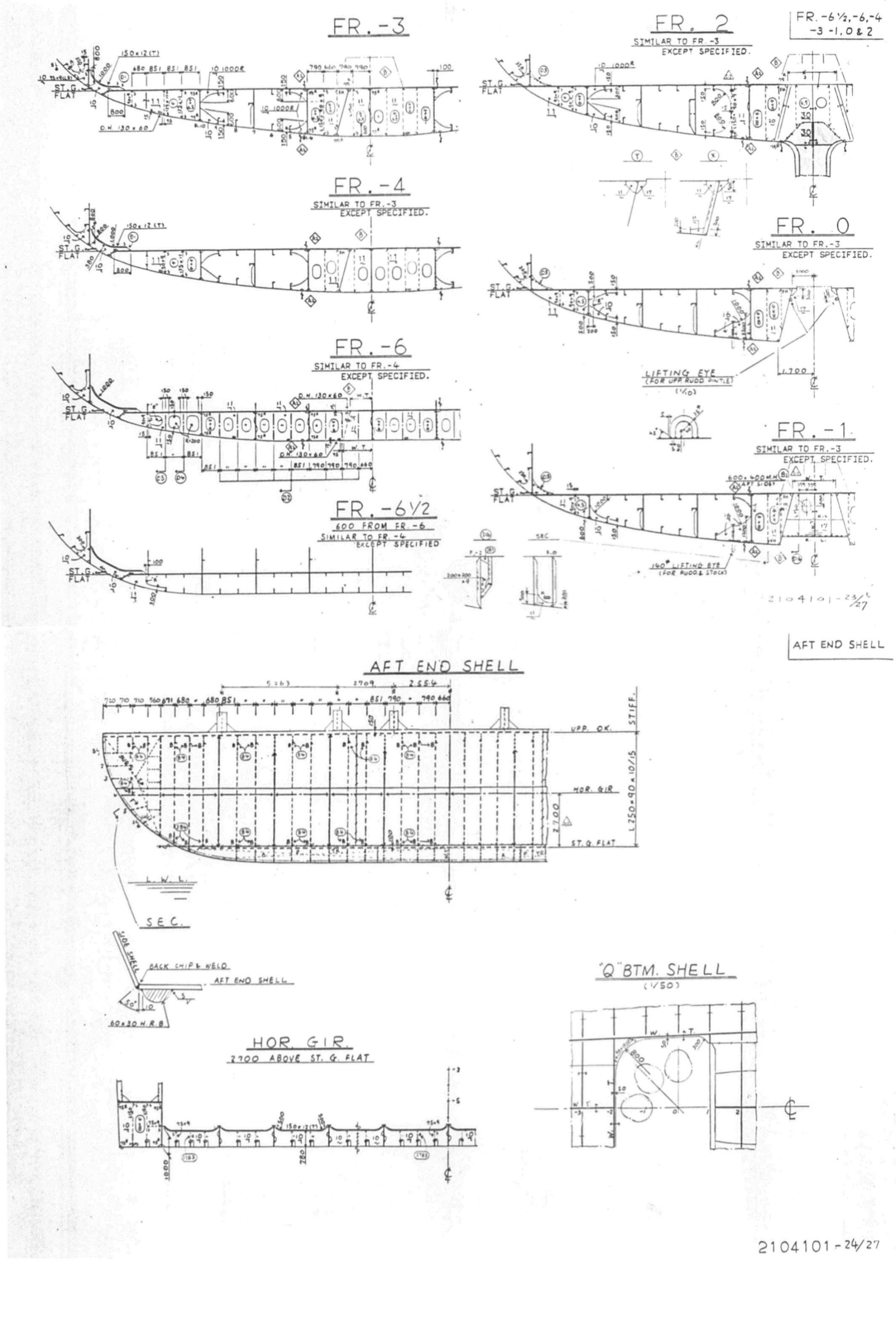


FR. 8

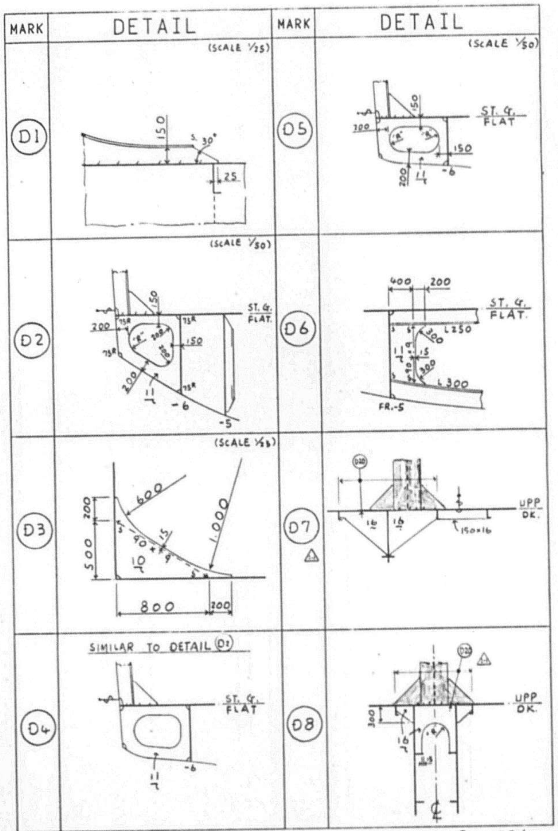
SIMILAR TO FR. 6
EXCEPT SPECIFIED.



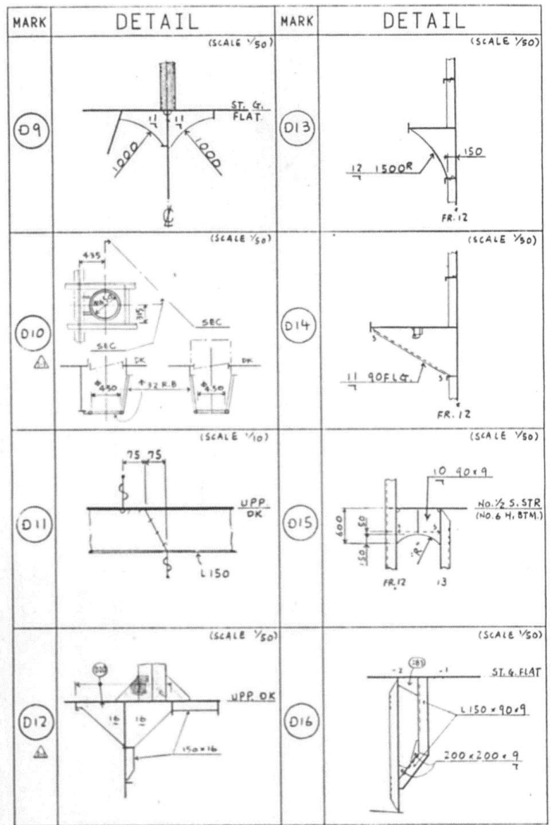
2104101-22/27



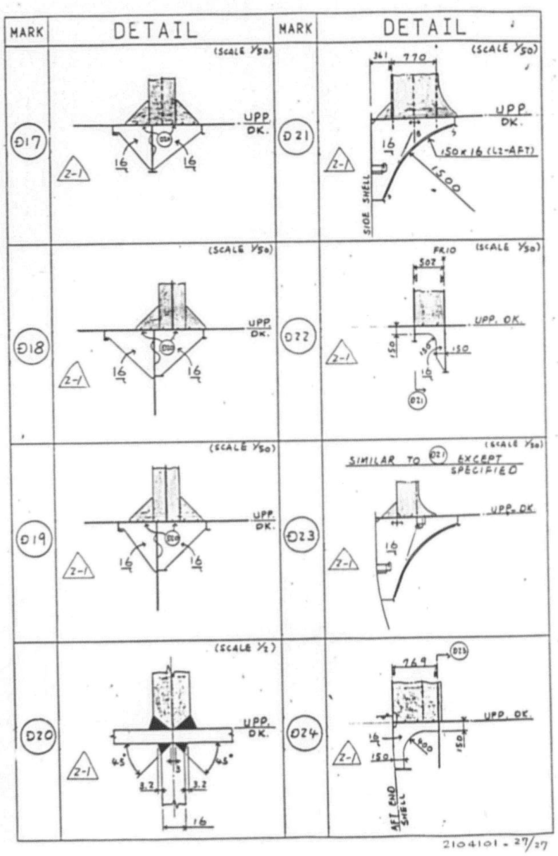
2104101-24/27



2104101-25/27



2104101-26/27



2104101-27/27

APPROVAL OF OWNER & REGULATORY BODIES

ALT.NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	July 85	OETS/MES-694			1 AUG 84	T-9-2		
1ST REV	9 SEP 84	TAM/05			4 OCT 84	T-9-2		
1ST PART REV	23 SEP 84	TAM/96			16 OCT 84	T-9-2		
2ND PART REV	4 NOV 84	TAM/103			13 NOV 84	T-9-2		
3RD PART REV	25 NOV 84	TAM/128			18 DEC 84	T-9-2		
4TH PART REV	24 DEC 84	TAM/160			20 FEB 86	T-9-2		
5TH PART REV	27 JAN 86	TAM/185			20 FEB 86	T-9-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME

MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SHIP'S NO. 1325
SHIP'S NAME TILLIE LYKES

船首楼構造
FOCSLE CONSTRUCTION

DATE (TEL 2236)
JOB NO. TS1323/24/25
JOB CLASSIF. NO. B05
SCALE 1/100
LYKES REF. NO. 111703
MITSUI DRAWING NO. 2105101

(1/2 SHEETS WITH COVER)

PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO. 1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO. 1324 AND S.NO. 1325."	NOV. 28.'86

DWG.NO. 2105101-1/

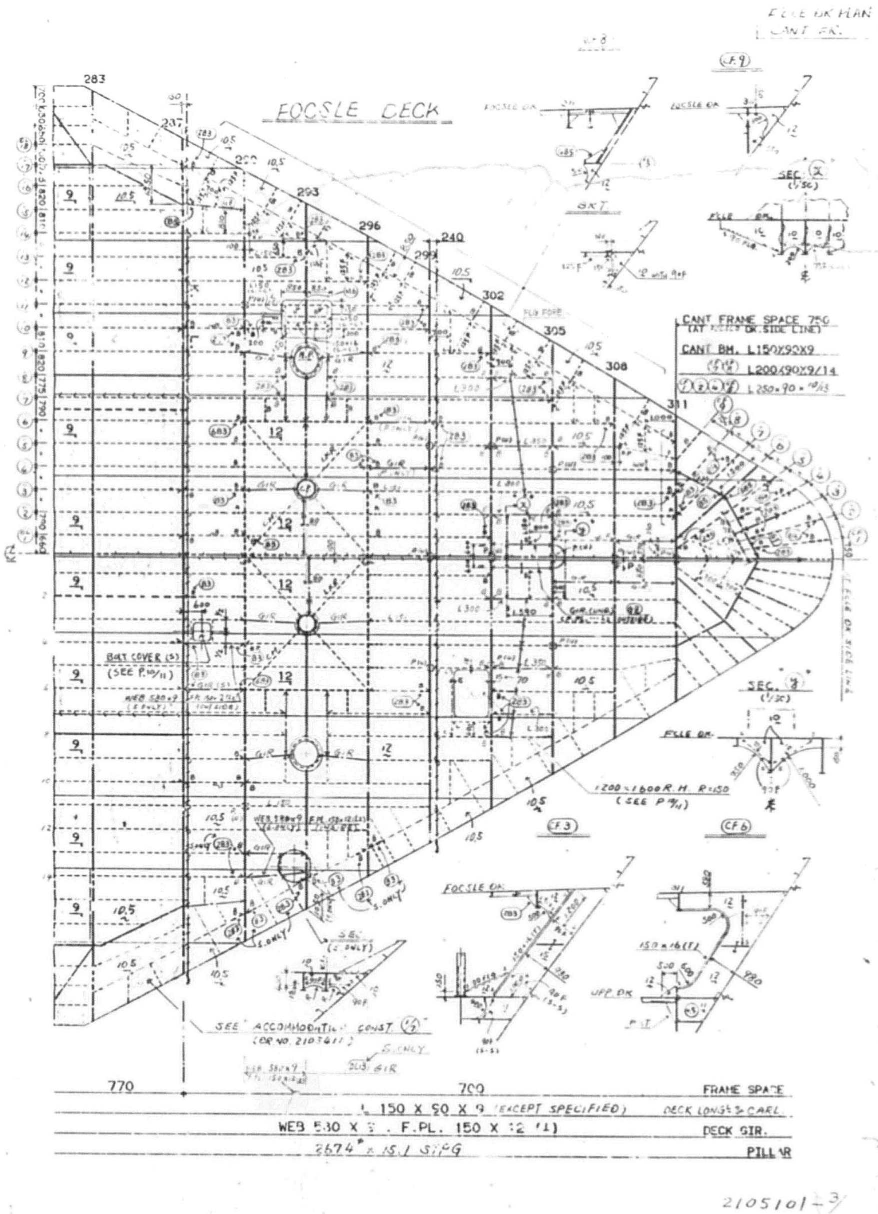
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備考:-

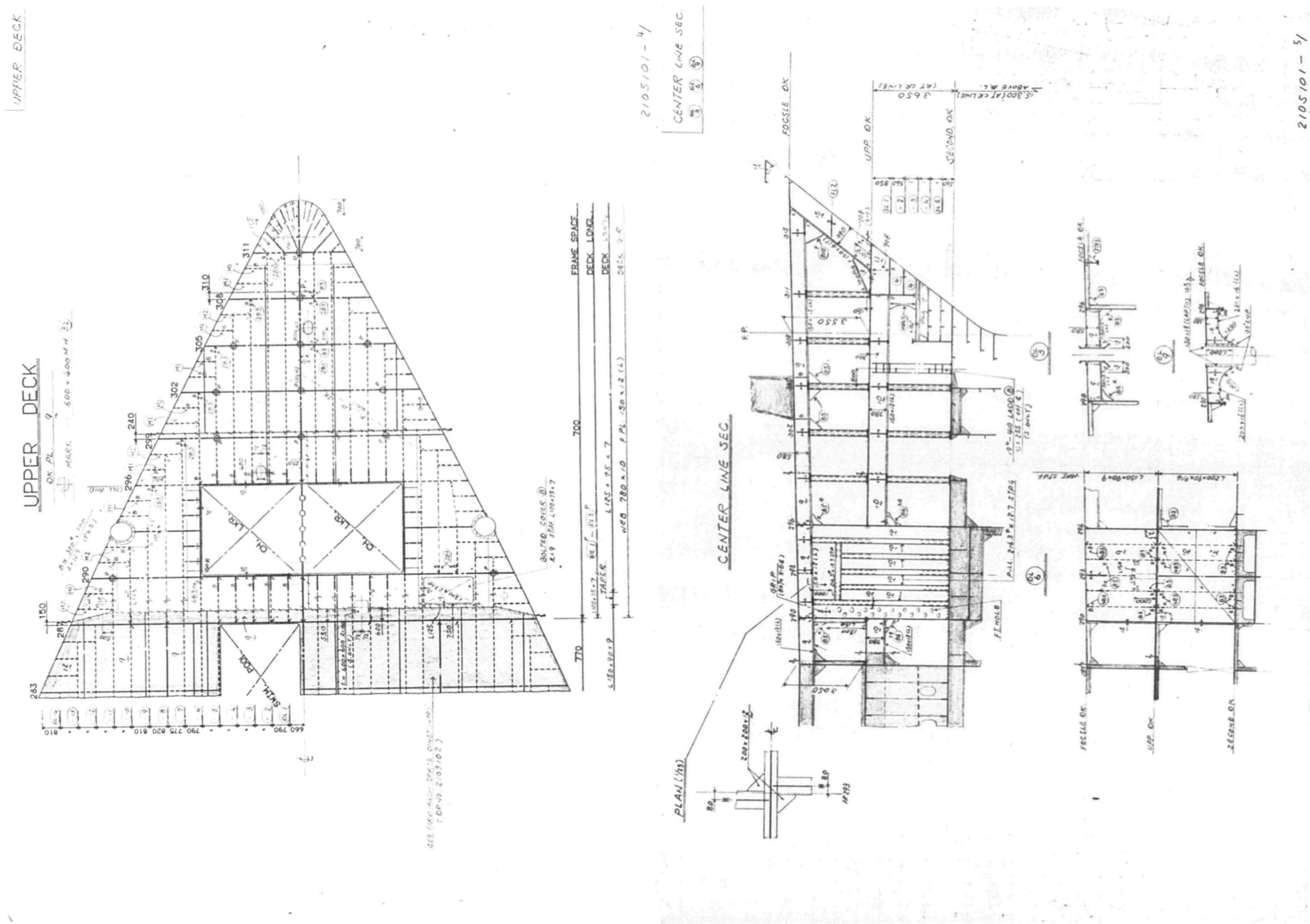
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は '構造詳細図（図番 2100811）' を参照のこと。
4. 溶接脚長については，特記の他は '溶接脚長表（図番 2100832）' を参照のこと。

2105101-2/

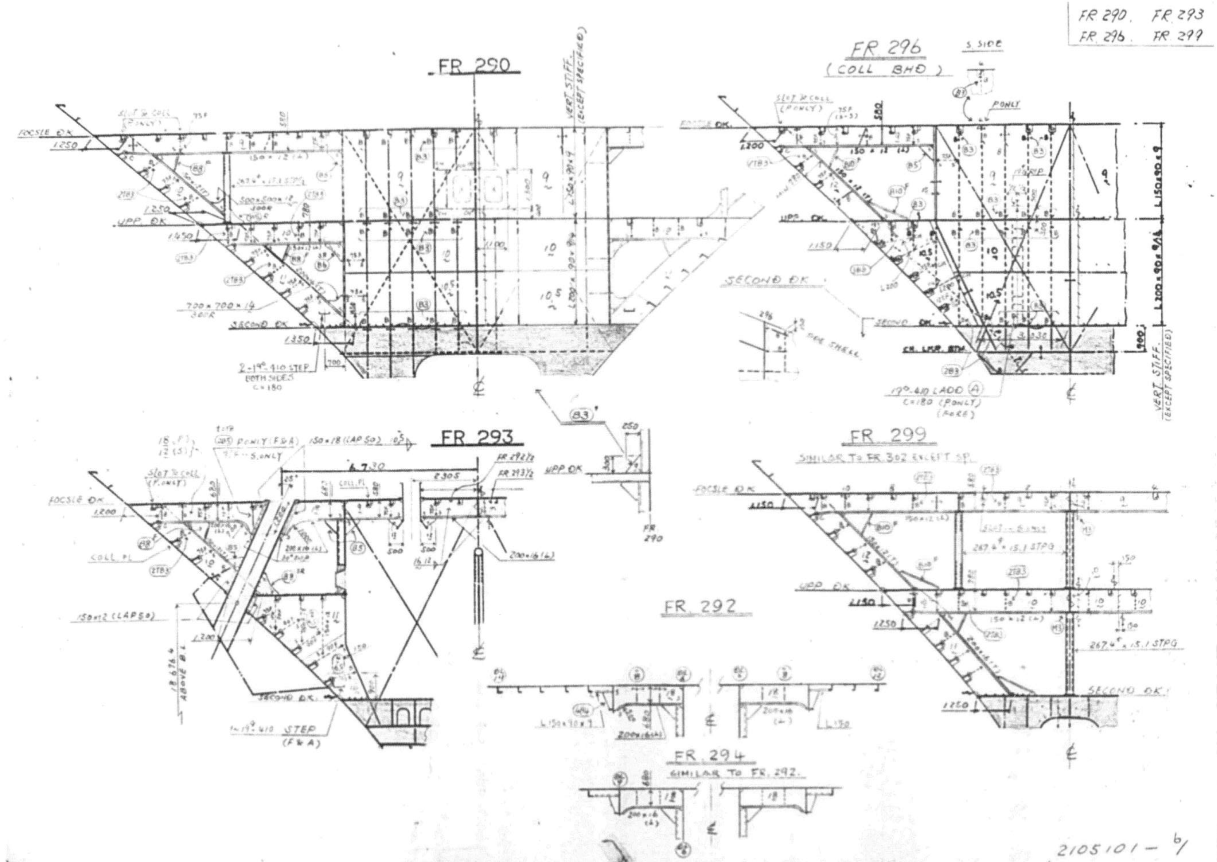


FOCSLE DECK
CANT FRAME SPACE 750
CANT BM. L150X90X9
SEC. (X)
SEC. (Y)
BKT
SEE ACCOMMODATION CONST.
BILT COVER (S)
770
700
FRAME SPACE
L 150 X 90 X 9 (EXCEPT SPECIFIED)
DECK LONGL & CARL.
WEB 530 X 9 . F.PL. 150 X 12 (T)
DECK GIR.
PILLAR
2105101-3

439

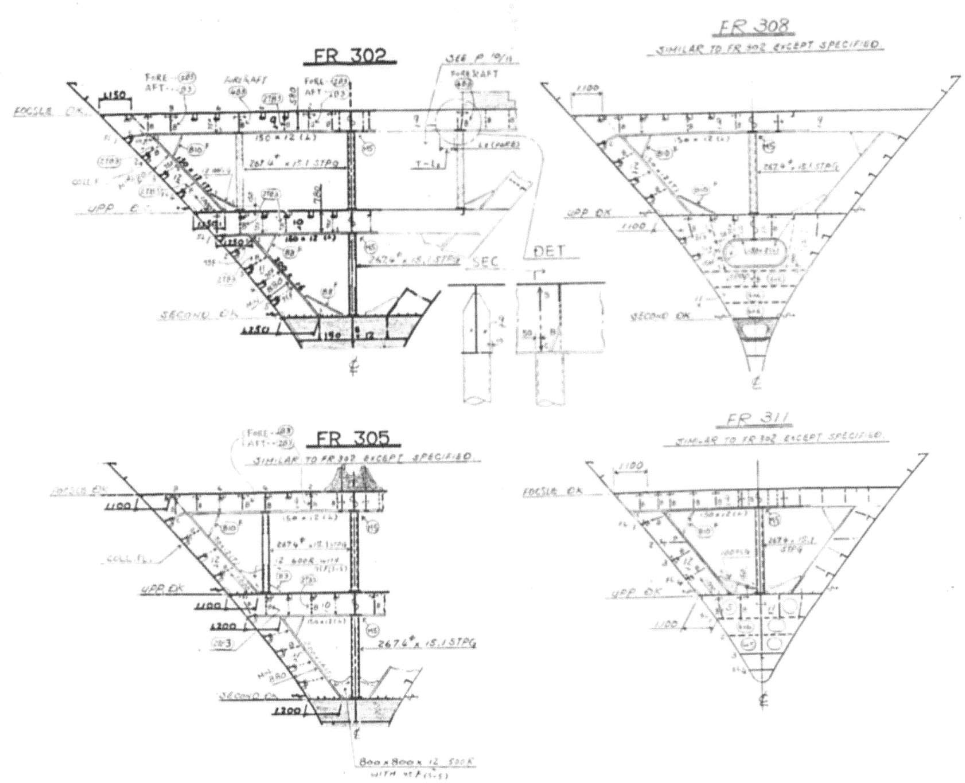

UPPER DECK
UPPER DECK
210S101-4/
CENTER LINE SEC.
CENTER LINE SEC
210S101-5/
FRAME SPACE
DECK LONG.
FOCSLE DK
UPP DK
SECOND DK
PLAN (1/25)

FR 290. FR 293
FR 296. FR 299

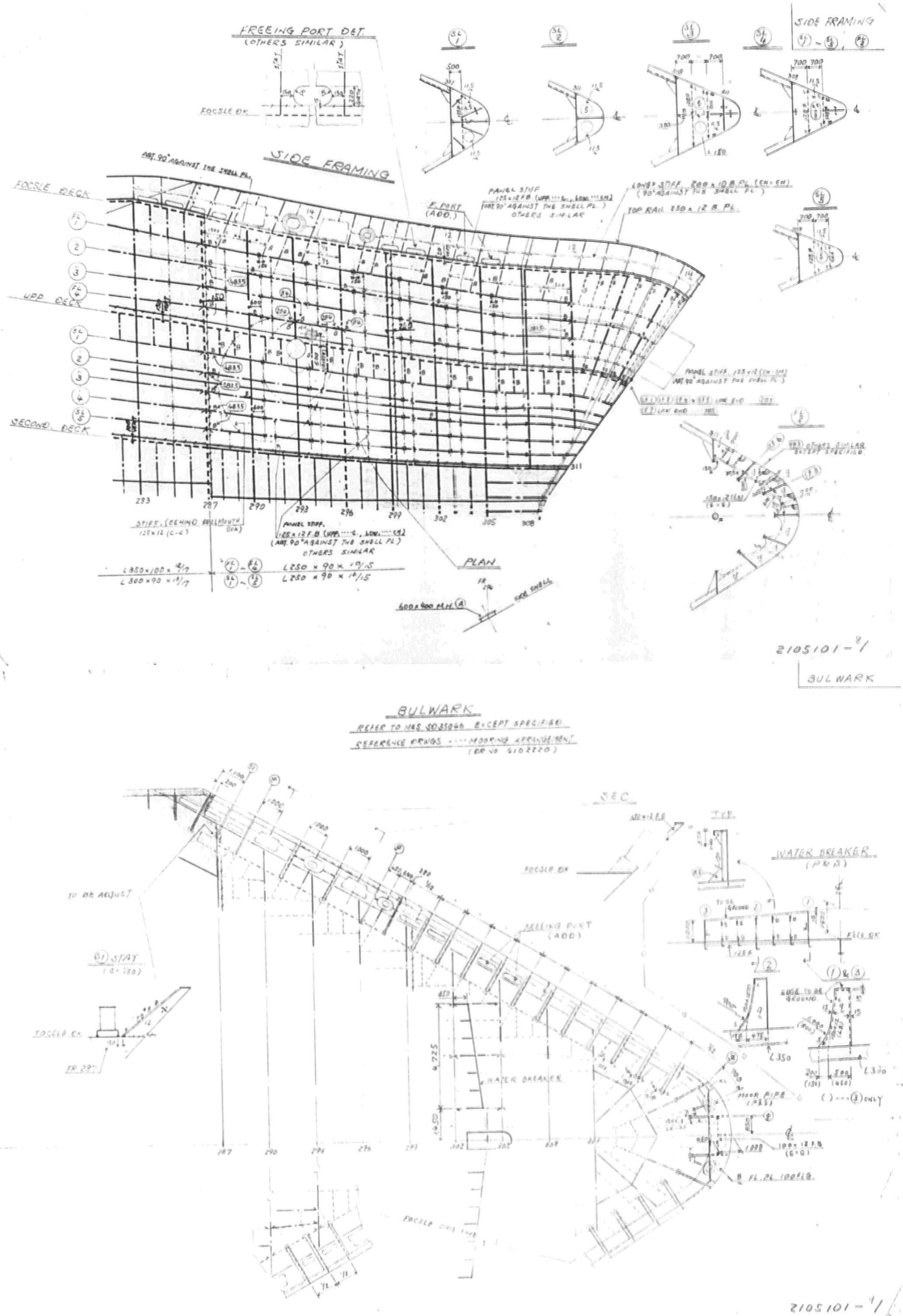


2105101 – 6/

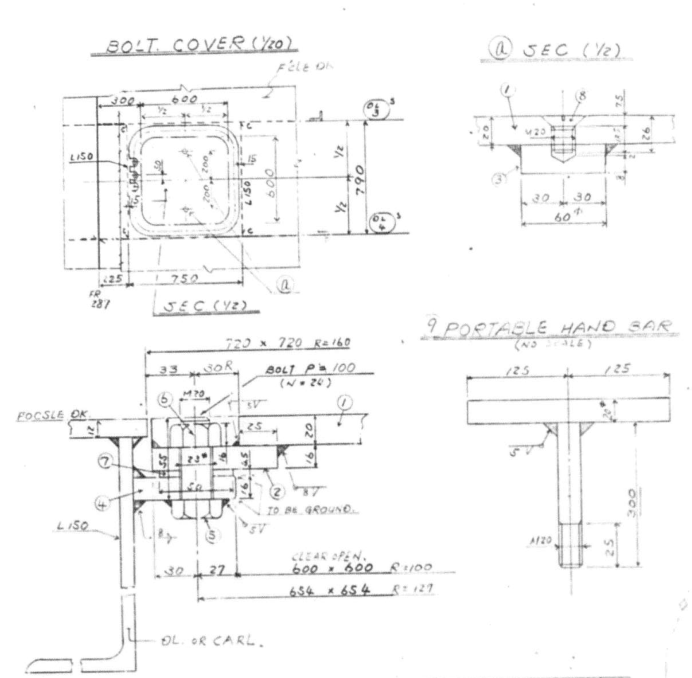
FR 302. FR 305
FR 308. FR 311

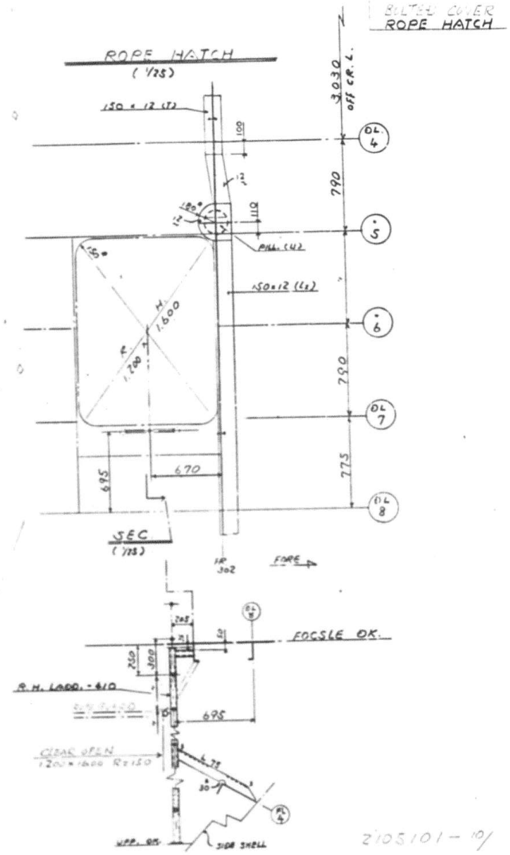


2105101 – 7/


FREEING PORT DET.
(OTHERS SIMILAR)
SIDE FRAMING
FOCSLE DECK
UPP. DECK
SECOND DECK
PLAN
2105101-8/1
BULWARK
BULWARK
REFER TO HHS SD35046 EXCEPT SPECIFIED
SEC.
WATER BREAKER
(P & S)
FREEING PORT
(ADD)
TO BE ADJUST
WATER BREAKER
2105101-9/1

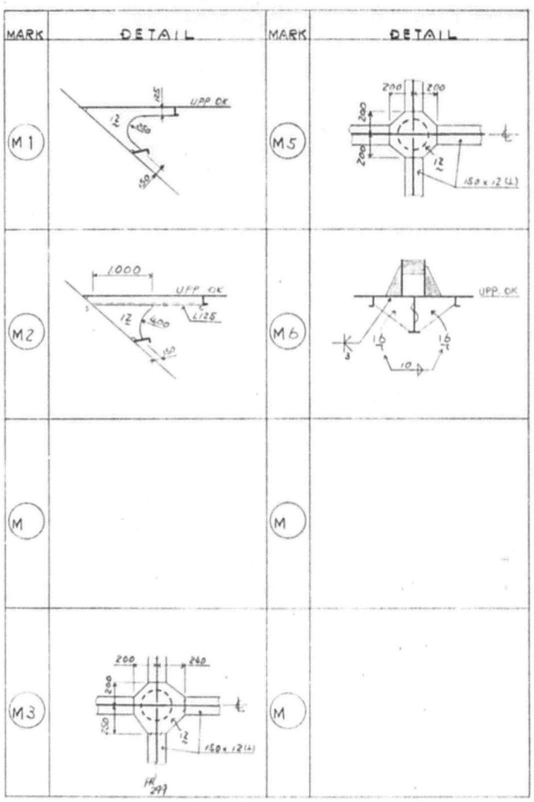
442





MARK NO	NAME OF PART	MATERIAL	QTY	MARK NO	NAME OF PART	MATERIAL	QTY
①	COVER PLATE	CLASSED STEEL	1	⑥	NUT (M20)	BRASS	24
②	PAD PLATE	〃 〃	1	⑦	PACKING	NEOPRENE	1
③	PAD PLATE	〃 〃	2	⑧	(M20) FLAT HEAD BOLT	STAINLESS STEEL (SUS 304)	2
④	FRAME	CLASSED STEEL	1	⑨	HAND BAR	STAINLESS STEEL (SUS 304)	2
⑤	BOLT (M20)	STAINLESS STEEL (SUS 304)	24				

2105101 - 10/



2105101 - 11/11

443

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN	JUN. 14 '85	
-10		FOLLOWED MES 1ST REVISED PLAN	JUL. 31 '85	[illegible]
-11	A	PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. DELETED SEAM JOINTS IN FR. 180 & 186 SEC. BASED DWG MES DWG NO. 2105101-A (1ST REVISED PLAN)	SEP. 5 '85	[illegible]
-12		FOLLOWED MES PARTLY REVISED PLAN NO. A1	SEP. 11 '85	[illegible]
-13		Do. NO. A2	OCT. 16 '85	[illegible]
-14		Do. NO. A3	NOV. 14 '85	[illegible]
-15		Do. NO. A4	JAN. 6 '86	[illegible]
-16		Do. NO. A5	JAN. 21 '86	[illegible]
-F	—	PREPARED AS FINISHED PLAN FOR S. No. 1158	MAR. 11 '87	[illegible]

(3 SHEETS WITH COVER)

SHIP DESIGNING DEPARTMENT
HULL DESIGNING SECTION

CLASS ABS

船首楼構造

FOCSLE CONSTRUCTION

ORDER 01-18000

DRAWING NO. 11S-69400-F

LYKES REF. NO. 111703

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	[illegible]	[illegible]						

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SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
NO. 1323	~~DOCTOR LYKES~~	NO. 1158	JAMES LYKES
NO. 1324	~~ALMERIA LYKES~~	NO. 1159	~~JOSEPH LYKES~~
NO. 1325	~~TILLIE LYKES~~	NO. 1161	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
STRUCTURE DESIGN SEC.

PARTLY REVISED PLAN NO. 5

船首楼構造

FOCSLE CONSTRUCTION

SCALE 1/100

LYKES REF. NO. 111703

MITSUI DRAWING NO. 2105101-A5

(3 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS.	May 24 '85
A		REVISED IN ACCORDANCE WITH ABS'S APPROVED DWG. (JUL '85) MISCELLANEOUS REVISION. REVISED ACCORDING TO DISCUSSION WITH ABS'S SURVEYOR (JUL '85)	July 10 '85
A1		MISCELLANEOUS REVISION (DESIGN DEVELOPMENT)	Sep 2 '85
A2		MISCELLANEOUS REVISION	OCT. 8 '85
A3		MISCELLANEOUS REVISION	OCT. 30 '85
A4		REQUIRED BY SUPERINTENDENT IN TAMANO	DEC 4 '85 H.H
A5		MISCELLANEOUS REVISION	JAN. 16 '86 H.H

DWG. NO. 2105101-A5

NOTES:-

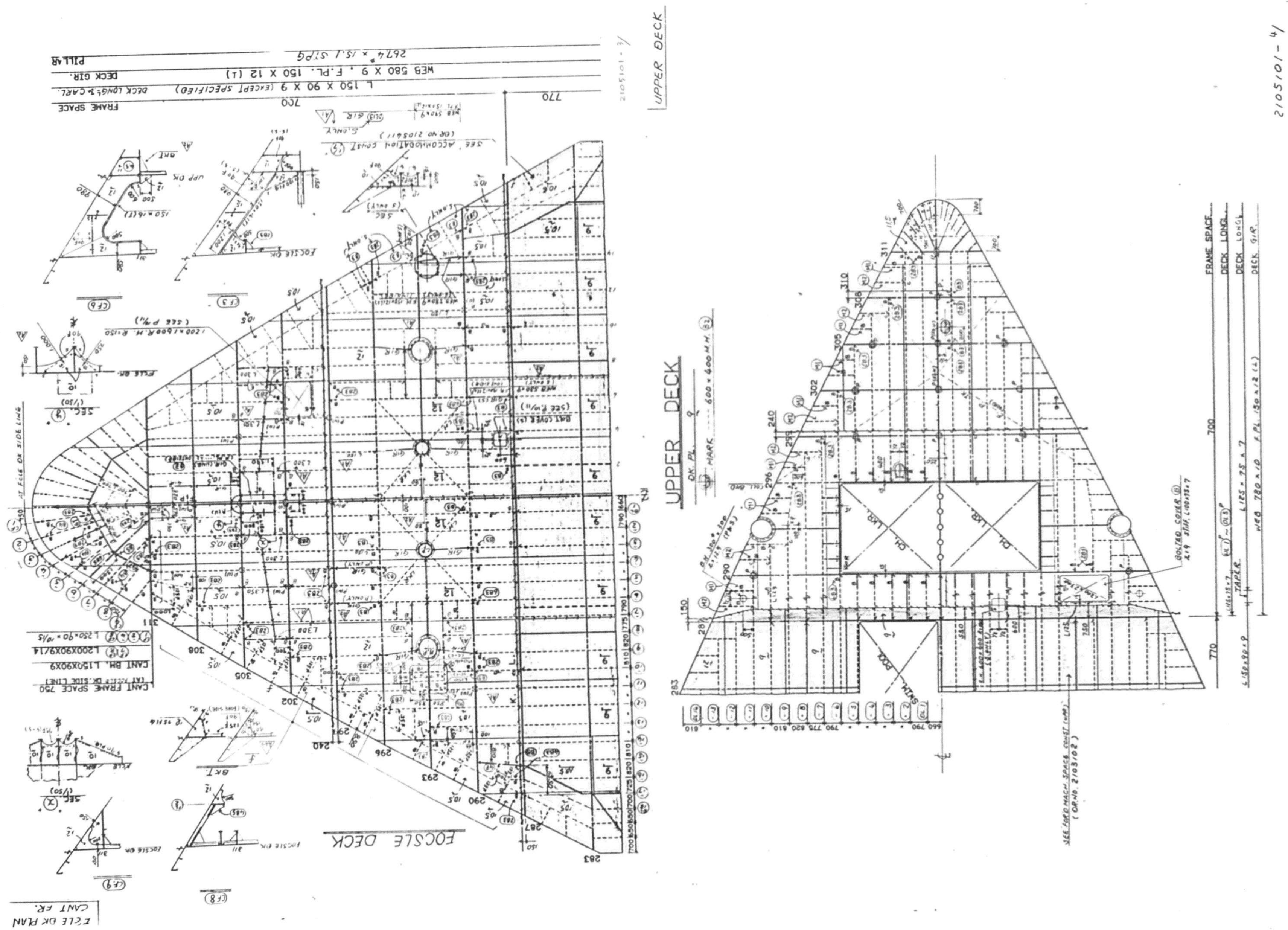
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

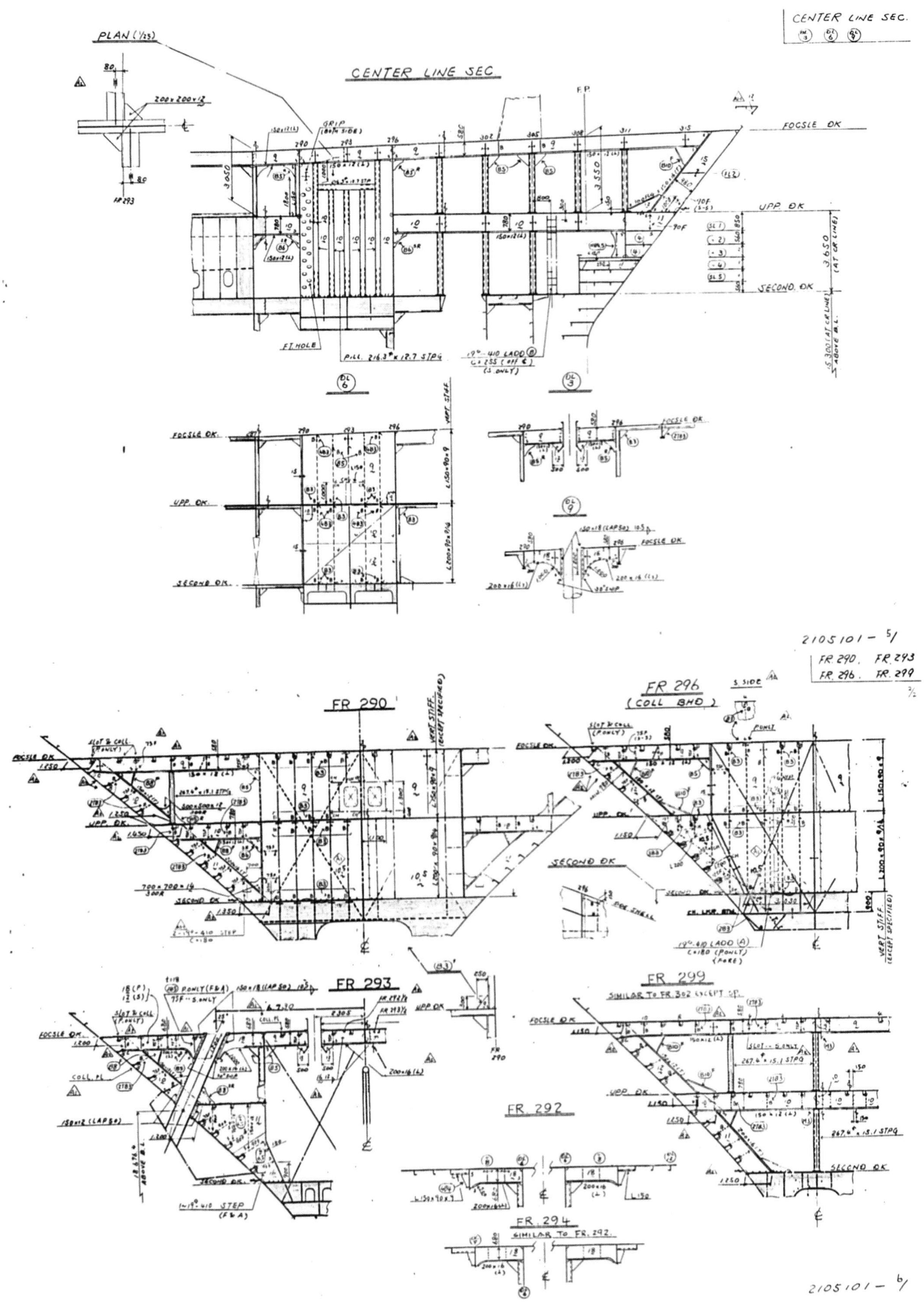
備考:-

1. 特記の他は、両舷対称とする。
2. 横断面図は、特記の他は後面を示す。
3. 構造詳細については、特記の他は「構造詳細図（図番2100811）」を参照のこと。
4. 脚長寸法については、特記の他は「溶接寸法表（図番2100832）」を参照のこと。

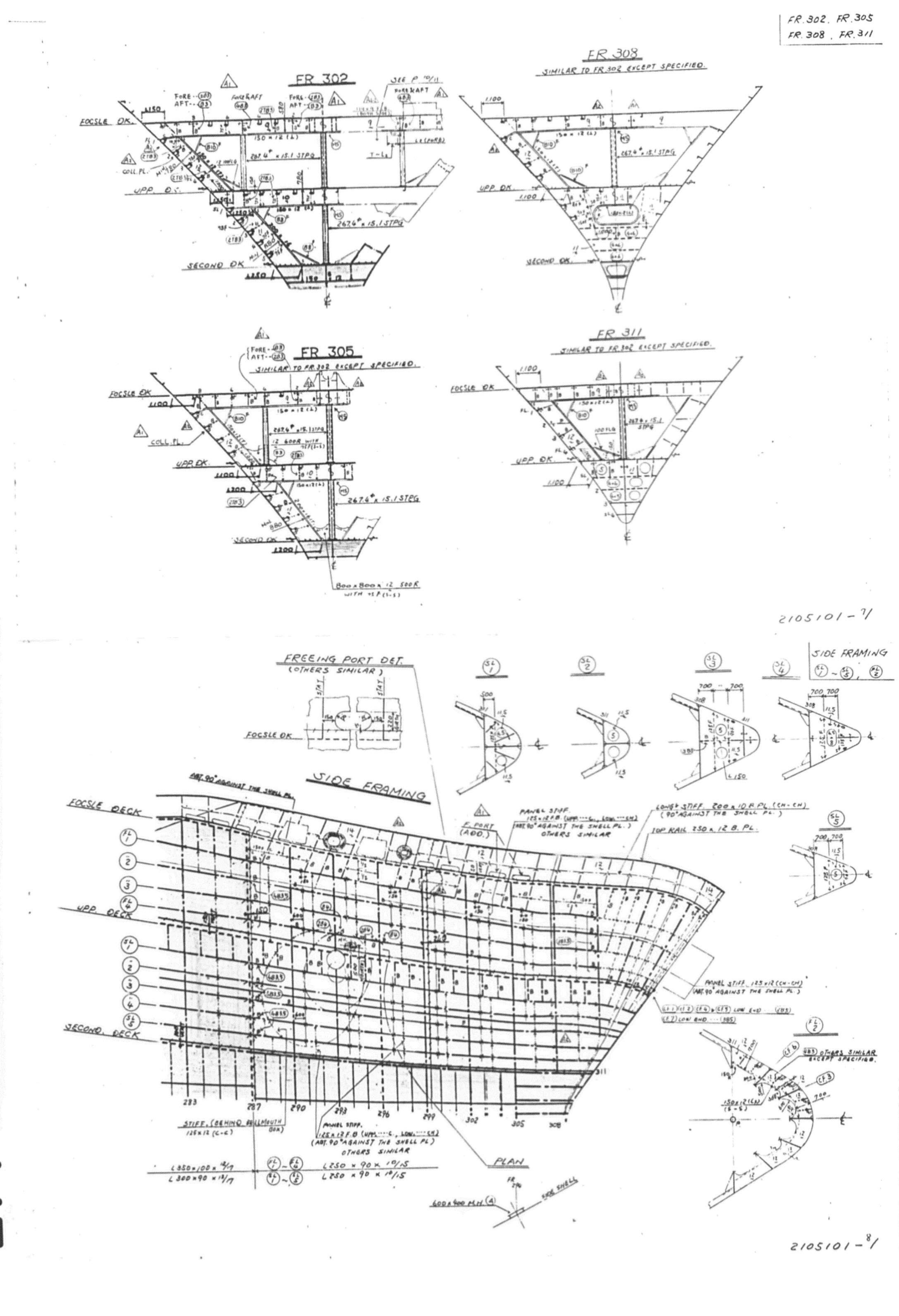
2105101-21

444


UPPER DECK
FOCSLE DECK
2105101-4



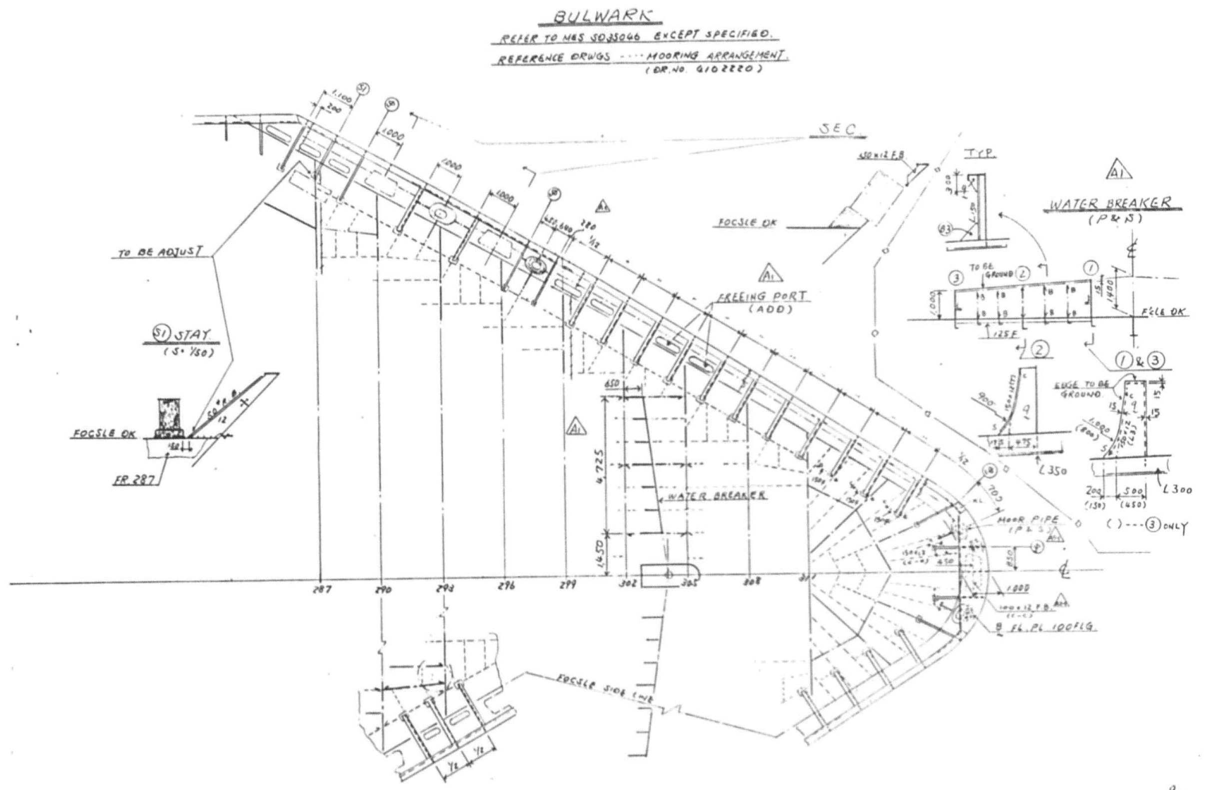
CENTER LINE SEC.
PLAN (1/25)
CENTER LINE SEC
FOCSLE DK
UPP DK
SECOND DK
2105101 - 5/
FR. 290. FR. 293
FR. 296. FR. 299
FR 290
FR 296
(COLL BHD)
FR 293
FR 299
SIMILAR TO FR. 302 EXCEPT
FR. 292
FR. 294
SIMILAR TO FR. 292.
2105101 - 6/



FR. 302. FR. 305
FR. 308 . FR. 311
FR 302
FR 308
SIMILAR TO FR.302 EXCEPT SPECIFIED.
FR 305
SIMILAR TO FR.302 EXCEPT SPECIFIED.
FR 311
SIMILAR TO FR.302 EXCEPT SPECIFIED.
FOCSLE DK
UPP DK
SECOND DK
COLL.PL.
267.4ᴾ x 15.1 STPG
800 x 800 x 12 SOOR
2105101 - 7/
FREEING PORT DET.
(OTHERS SIMILAR)
SIDE FRAMING
FOCSLE DECK
UPP DECK
SECOND DECK
TOP RAIL 250 x 12 B.PL.
PLAN
600 x 400 M.H.
2105101 - 8/

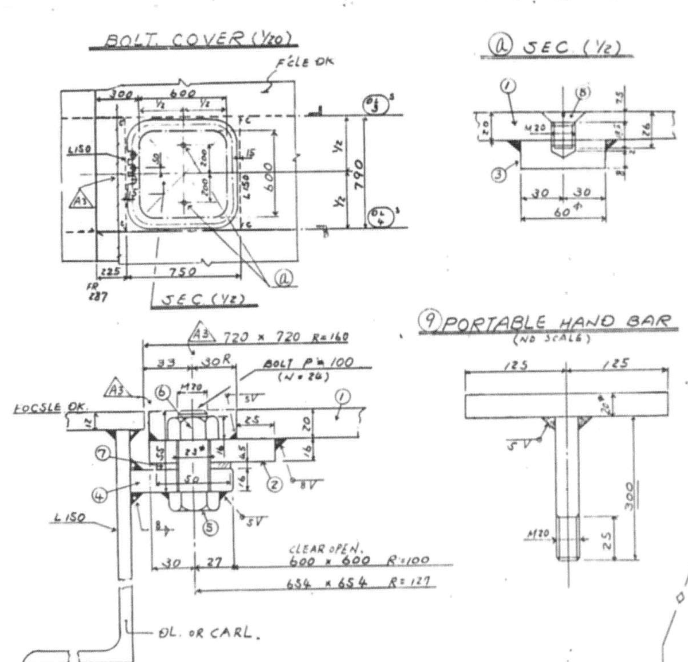
447

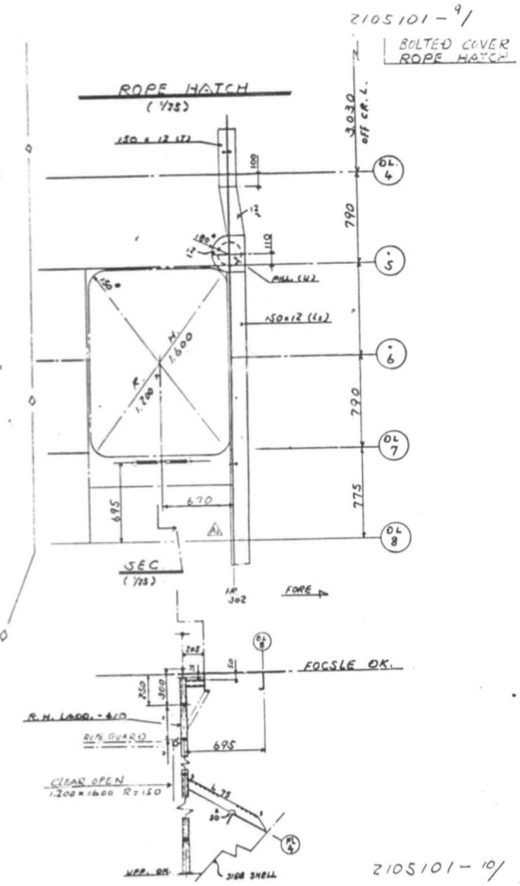
BULWARK



210S101 - 9/

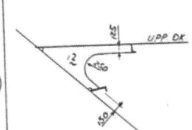
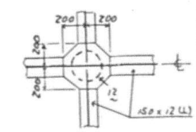
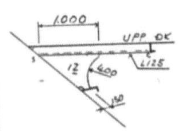
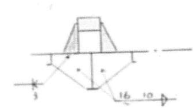
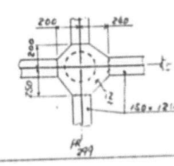
BOLTED COVER ROPE HATCH





MARK NO	NAME OF PART	MATERIAL	QTY	MARK NO	NAME OF PART	MATERIAL	QTY
1	COVER PLATE	CLASSED STEEL	1	6	NUT (M20)	BRASS	24
2	PAD PLATE	〃 〃	1	7	PACKING	NEOPRENE	1
3	PAD PLATE	〃 〃	2	8	(M20) FLAT HEAD BOLT	STAINLESS STEEL (SUS 304)	2
4	FRAME	CLASSED STEEL	1	9	HAND BAR	STAINLESS STEEL (SUS 304)	2
5	BOLT (M20)	STAINLESS STEEL (SUS 304)	24				

210S101 - 10/

MARK	DETAIL	MARK	DETAIL
M1		M5	
M2		M6	
M		M	
M3		M	

APPROVAL OF OWNER & REGULATORY BODIES

ALT.NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	8-FEB'85	OFTS/MES/070			1JUL'86	T-8-2		
1st PART REV	4 SEP '86	TAM/67			20 OCT'86	T-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

STRUCTURE DESIGN SEC. — KEY PLAN

鋼 枝 構 造

CONSTRUCTION PROFILE & DECK PLANS

JOB NO. TS1323/24/25 — SCALE 1/200 — LYKES REF. NO. 111704 — MITSUI DRAWING NO. 2100021

(10 SHEETS WITH COVER)

PLAN RECORD

ALT.NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325"	NOV.28 '86

DWG.NO. 2100021 - 1/

CLASS :-

AMERICAN BUREAU OF SHIPPING ✠A1Ⓔ, ✠AMS AND ✠ACCU

PRINCIPAL DIMENSIONS :-

		M
LENGTH	P.P.	245.000
〃 (SUMMER L.W.L.)		249.100
〃 (97 % OF L.W.L.)	(FOR SCANTLING)	241.627
BREADTH	MLD.	32.200
DEPTH	〃	18.800
DRAFT (FOR SCANTLING)	〃	11.880
BLOCK COEFFICIENT (FOR SCANTLING)		0.654

MATERIALS :-

1) ALL PLATES NOT EXCEEDING 12.5 M/M IN THICKNESS TO BE OF "GRADE A RIMMED STEEL".

2) PLATES EXCEEDING 12.5 M/M IN THICKNESS TO BE OF "GRADE A SEMI-KILLED STEEL" EXCEPT SPECIALLY MARKED AS FOLLOWS.

B --- "GRADE B" SEMI-KILLED STEEL.

D --- "GRADE D" SEMI-KILLED STEEL. (NORMALIZED)

DN --- "GRADE D" KILLED STEEL. (NORMALIZED)

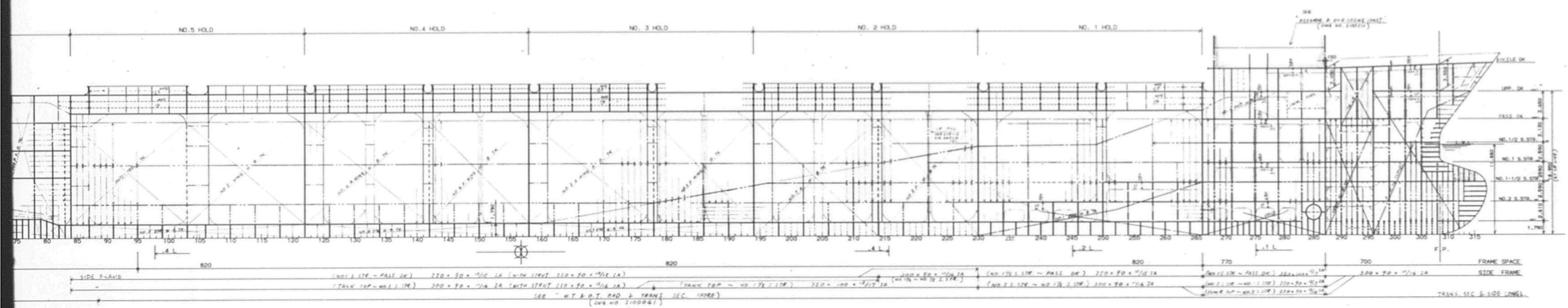
E --- "GRADE E" KILLED STEEL. (NORMALIZED)

		MINIMUM YIELD STRESS (KG/MM²)
AH32	--- "GRADE A" HIGHER TENSILE STEEL.	32
DH32	--- "GRADE D" HIGHER TENSILE STEEL.	〃
AH36	--- "GRADE A" HIGHER TENSILE STEEL.	36
DH36	--- "GRADE D" 〃 〃 〃	〃
EH36	--- "GRADE E" 〃 〃 〃	〃

2100021 - 2/

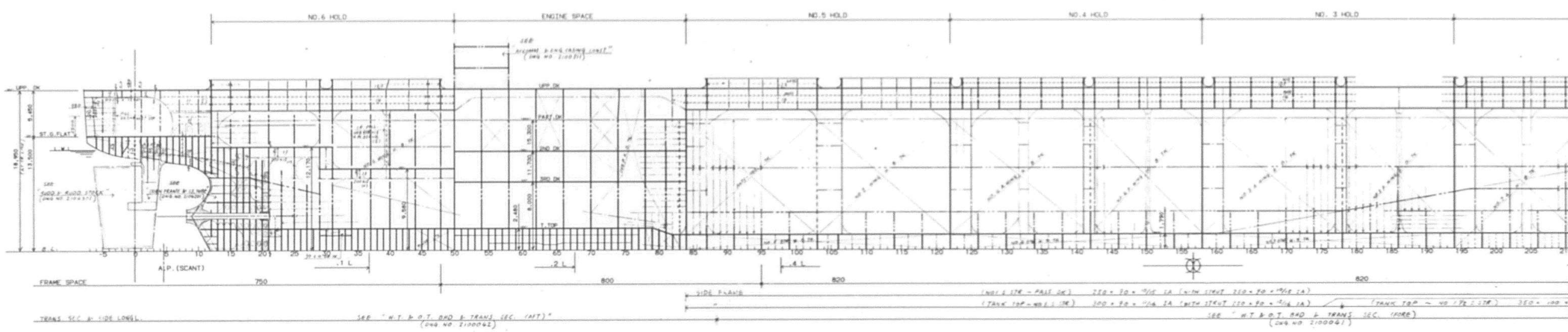
450

PROFILE
(CENTER LINE SEC.)

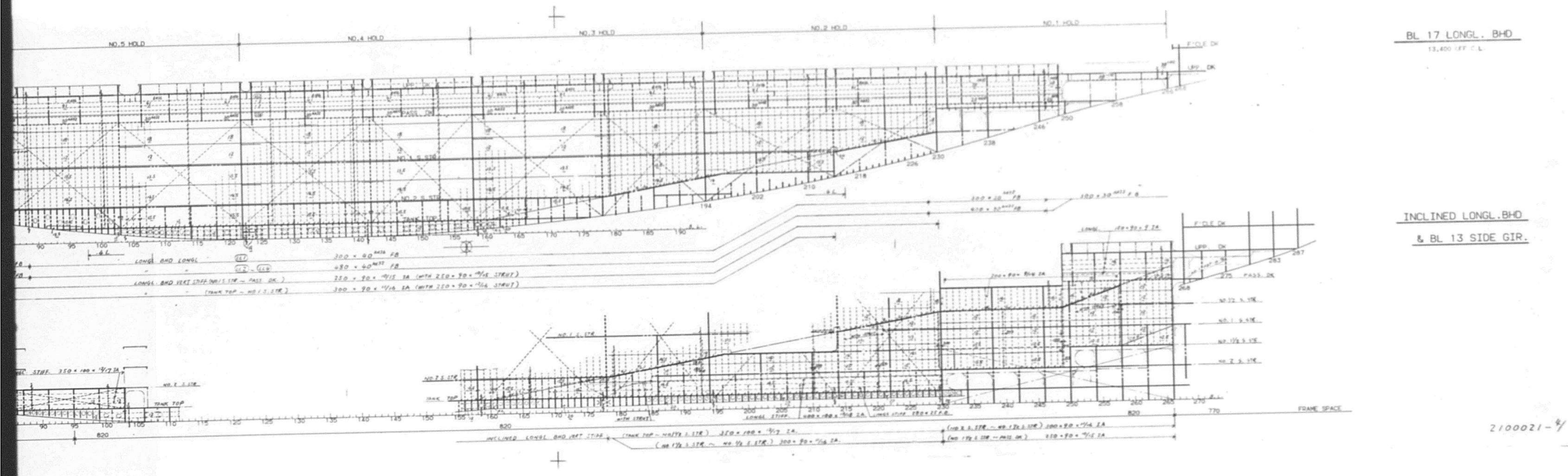


2100021 -4/

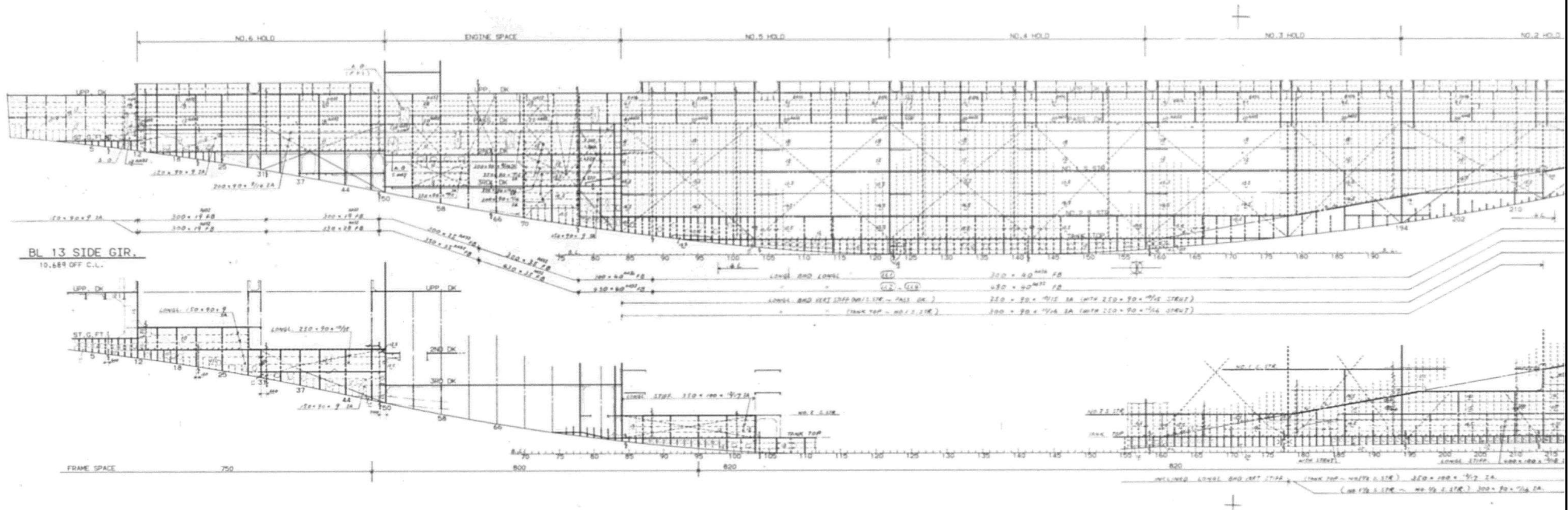
451



2/2 452

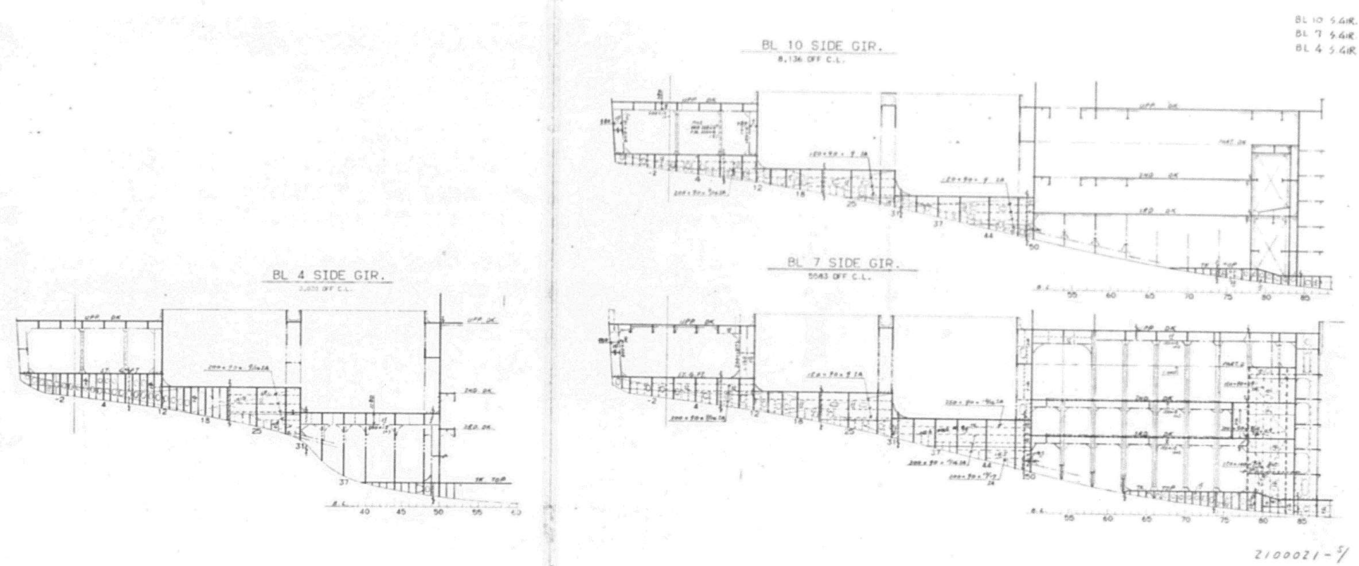


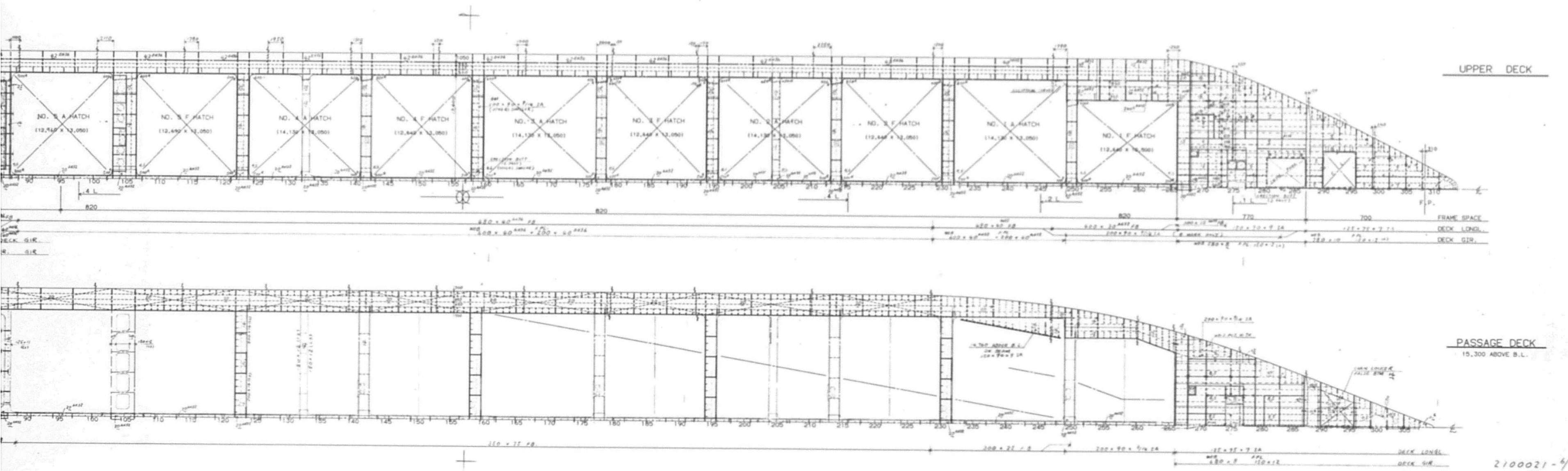
BL 17 LONGL. BHD
INCLINED LONGL.BHD
& BL 13 SIDE GIR.
NO.5 HOLD
NO.4 HOLD
NO.3 HOLD
NO.2 HOLD
NO.1 HOLD
FRAME SPACE
2100021-4/1

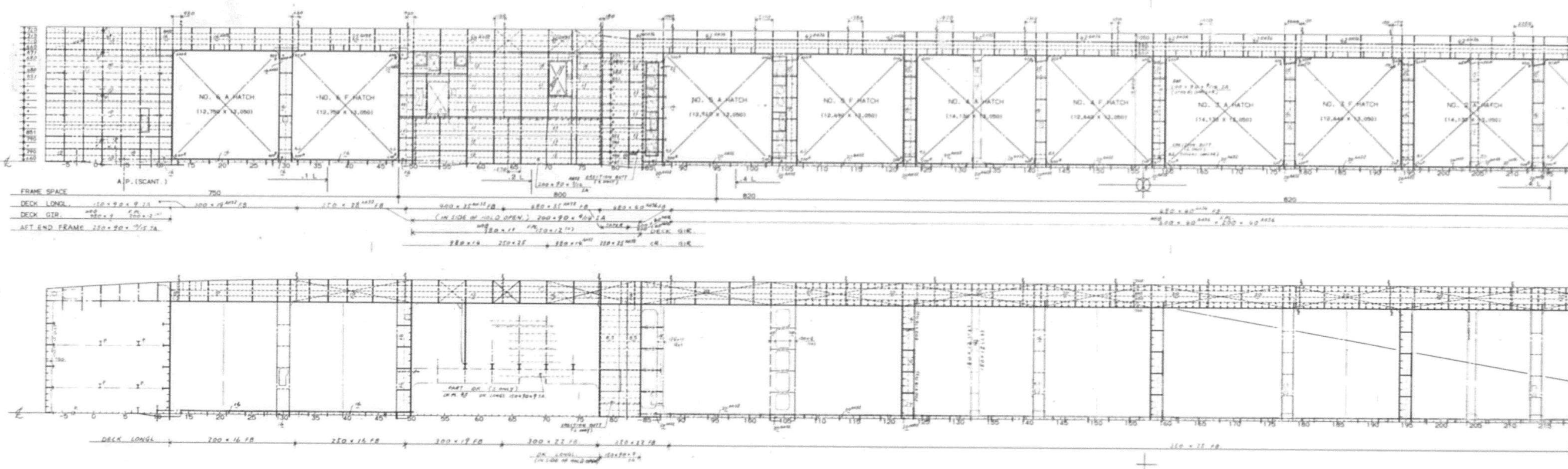

NO.6 HOLD
ENGINE SPACE
NO.5 HOLD
NO.4 HOLD
NO.3 HOLD
NO.2 HOLD
UPP. DK
BL 13 SIDE GIR.
10.689 OFF C.L.
2ND DK
3RD DK
TANK TOP
FRAME SPACE
750
800
820

2/2

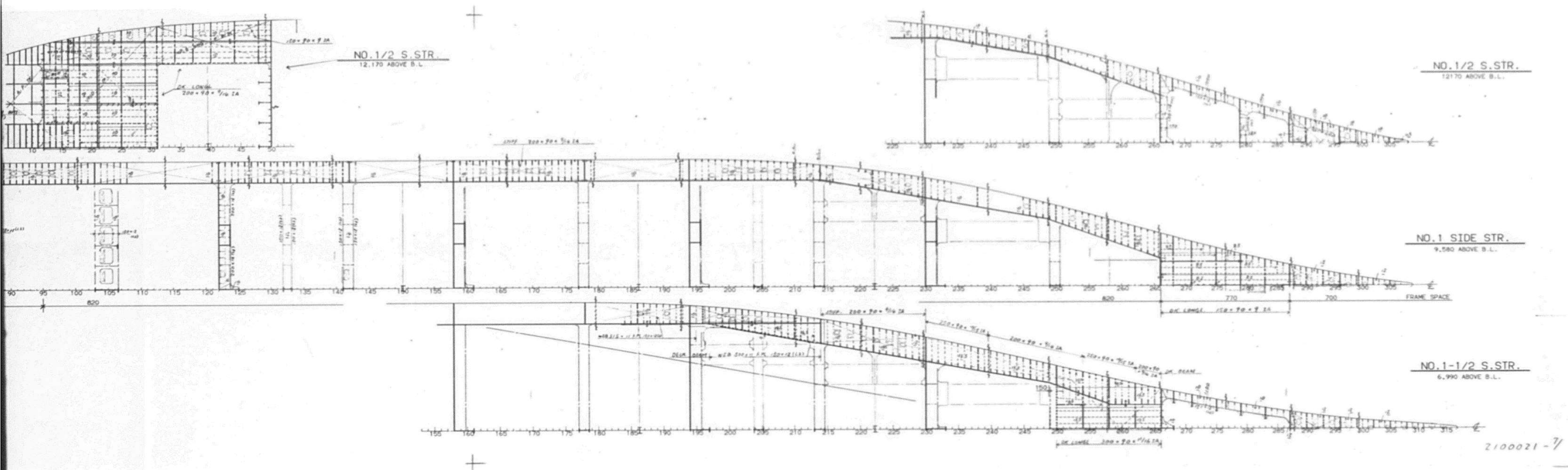
454

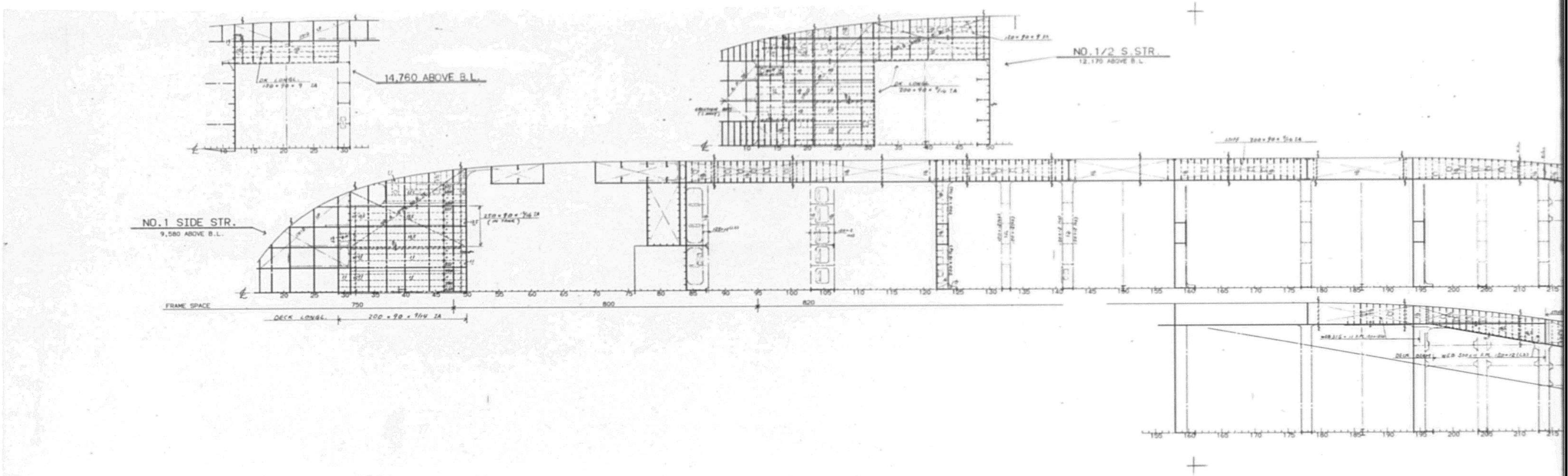

BL 10 SIDE GIR.
8,136 OFF C.L.
BL 7 SIDE GIR.
5583 OFF C.L.
BL 4 SIDE GIR.
BL 10 S GIR.
BL 7 S GIR.
BL 4 S GIR.
Z100021-2/1


UPPER DECK
PASSAGE DECK
15,300 ABOVE B.L.
FRAME SPACE
DECK LONGL.
DECK GIR.

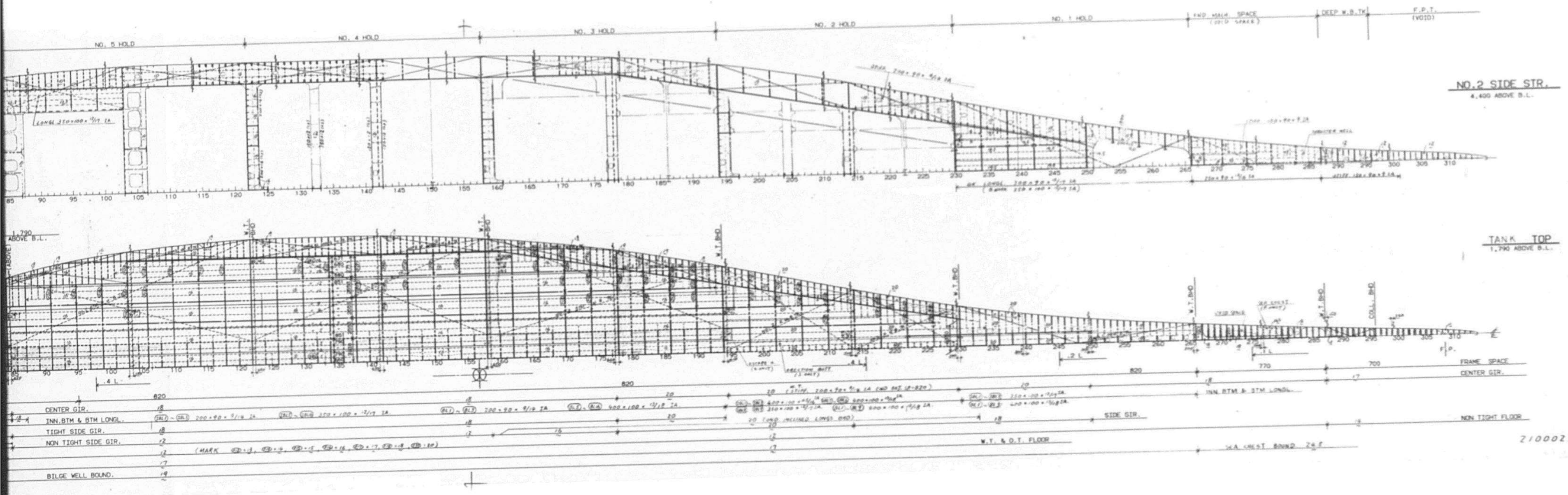

NO. 6 A HATCH
NO. 6 F HATCH
NO. 5 A HATCH
NO. 5 F HATCH
NO. 4 A HATCH
NO. 4 F HATCH
NO. 3 A HATCH
NO. 2 F HATCH
NO. 2 A HATCH
A.P. (SCANT.)
FRAME SPACE
DECK LONGL.
DECK GIR.
AFT END FRAME
DECK LONGL.

457


NO.1/2 S.STR.
12,170 ABOVE B.L.
NO.1/2 S.STR.
12170 ABOVE B.L.
NO.1 SIDE STR.
9,580 ABOVE B.L.
NO.1-1/2 S.STR.
6,990 ABOVE B.L.
FRAME SPACE
820
770
700
2100021-7/

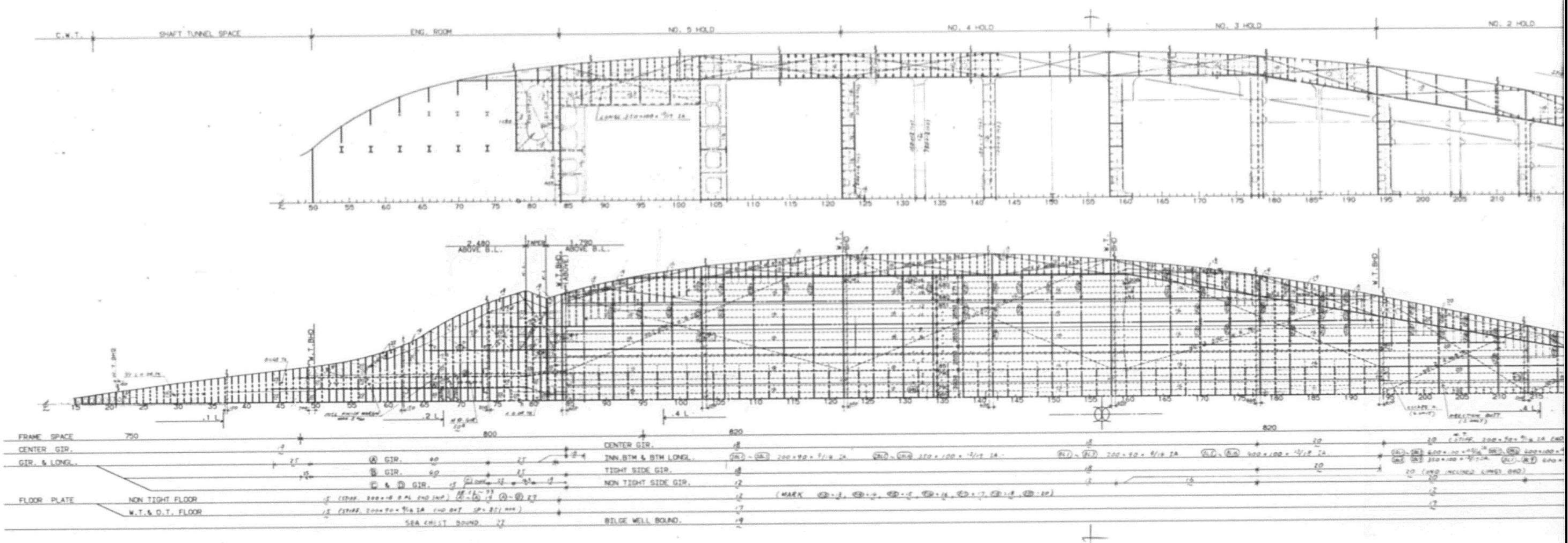


14,760 ABOVE B.L.
NO.1/2 S.STR.
NO.1 SIDE STR.
9,580 ABOVE B.L.
FRAME SPACE
DECK LONGL.



Z100021-8/1

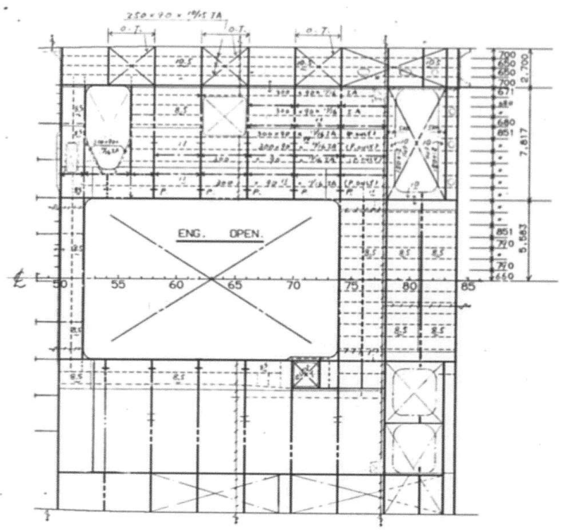
460



C.W.T.
SHAFT TUNNEL SPACE
ENG. ROOM
NO. 5 HOLD
NO. 4 HOLD
NO. 3 HOLD
NO. 2 HOLD
ABOVE B.L.
W.T. BHD
FRAME SPACE
750
800
820
CENTER GIR.
GIR. & LONGL.
FLOOR PLATE
NON TIGHT FLOOR
W.T.& O.T. FLOOR
INN. BTM & BTM LONGL.
TIGHT SIDE GIR.
NON TIGHT SIDE GIR.
BILGE WELL BOUND.
SEA CHEST BOUND.

SALOON & FOCSLE DECK
2ND DECK (E/R)
3RD DECK (E/R)
ST. G. FLAT

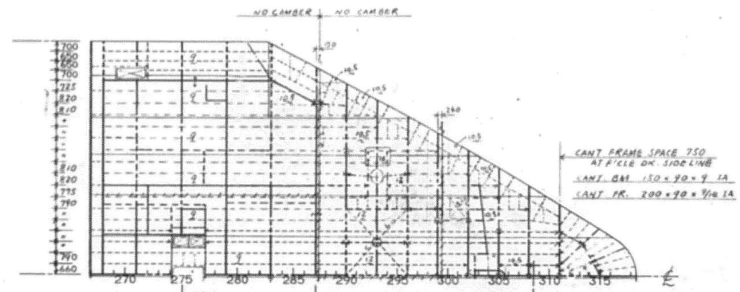
2ND DECK
11,700 ABOVE B.L.



800	FRAME SPACE
150 × 90 × 9 IA	DECK LONGL.
WEB 780 × 9 F.PL. 150 × 12 (L)	DECK GIR.

GEN UND.
DK. PL. 11 DK. LONGL. 300 × 90 × 11/16 IA.
DK. GIR WEB 780 × 10 F.PL. 150 × 12 (L)

SALOON & FOCSLE DECK

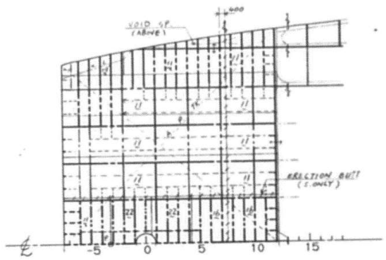


770	700	FRAME SPACE
	150 × 90 × 9 IA	DECK LONGL.
	WEB 580 × 9 F.PL. 150 × 12 (L)	DECK GIR.
216.3φ × 12.7 STP	267.4φ × 15.1 STPG	UNDER PILLAR

2100021 - 9/9

ST.G.FLAT

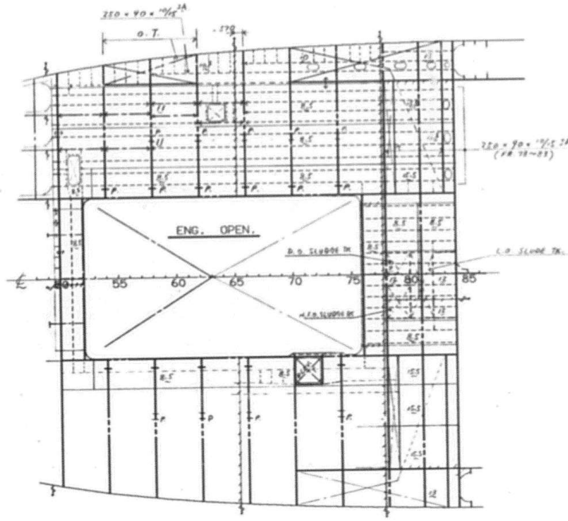
13,500 ABOVE B.L.



FRAME SPACE	750
DECK LONGL.	250 × 90 × 10/15 IA
BTM LONGL.	300 × 90 × 11/16 IA
GIR & FLOOR	11
CENTER GIR	17 * 30

3RD DECK

8,000 ABOVE B.L.

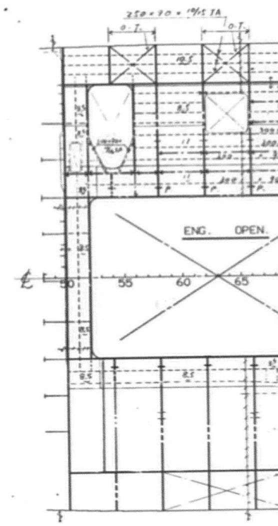


800	FRAME SPACE
150 × 90 × 9 IA.	DECK LONGL.
WEB 780 × 9 F.PL. 150 × 12 (A)	DECK GIR.

BOIL. & GEN. UND.
DK. PL. 11 DK. LONGL. 300 × 90 × 11/16 IA.
DK. GIR WEB 780 × 10 F.PL. 150 × 12 (A)

2ND D

11,700 ABOVE



800
150 × 90 ×
WEB 780 × 9

GEN. UND.
DK. PL. 11 DK.
DK.

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	7 JUL '86	OFTS/MES-675			13 AUG '86	T-P-2		
1ST REV	24 JUL '86	TAM/26			17 SEP '86	T-P-2		
1ST PART REV	16 SEP '86	TAM/66			9 OCT '86	T-P-2		
2ND PART REV	4 NOV '86	TAM/106			14 NOV '86	T-P-2		
3RD PART REV	15 NOV '86	TAM/115			12 DEC '86	T-P-2		
4TH PART REV	27 JAN '86	TAM/145			20 FEB '86	T-P-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER — STRUCTURE DESIGN SEC.

SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

エンジンケーシング構造
ENGINE CASING CONSTRUCTION

JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 111706 — MITSUI DRAWING NO. 2105771

(10 SHEETS WITH COVER)

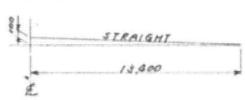
PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV. 28 '86

DWG. NO. 2105771-1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG. NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
5. DK CAMBER



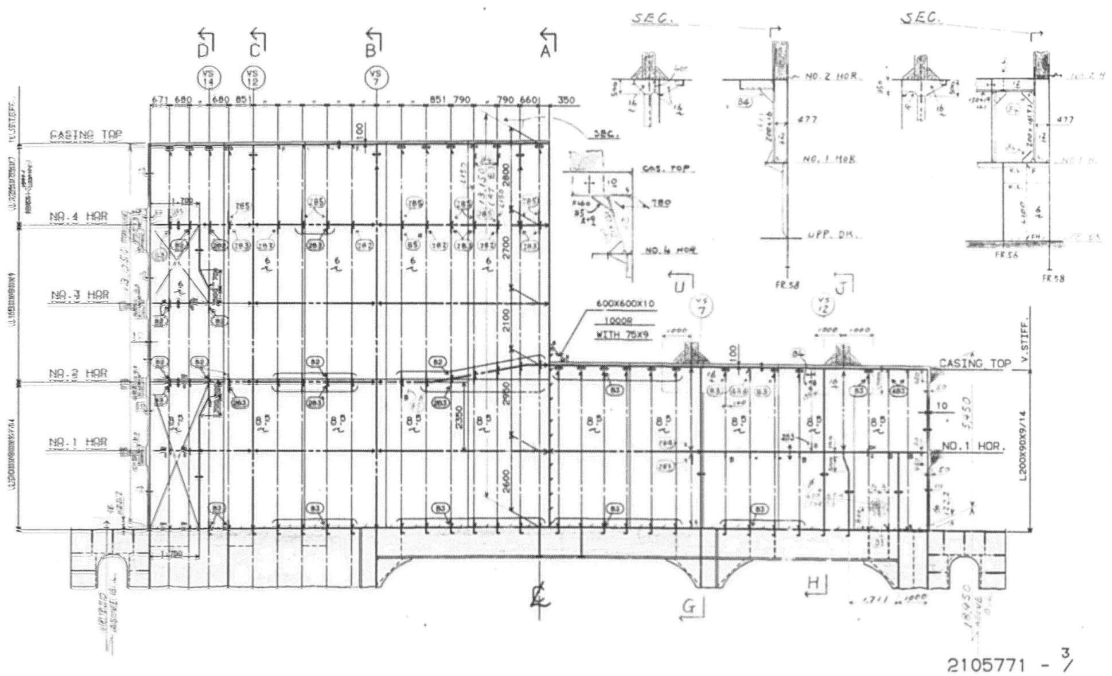
備 考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
   '構造詳細図（図番2100811）'を参照のこと。
4. 溶接脚長については，特記の他は
   '溶接脚長表（図番2100832）'を参照のこと。

2105771-2/

FRONT WALL
SEC. J & U

FRONT WALL (FR.58)

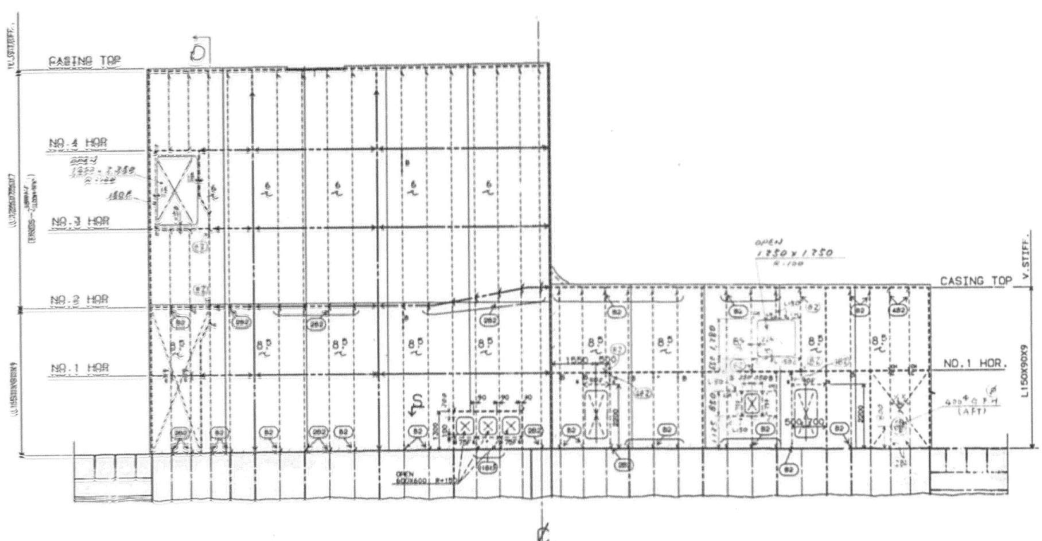


2105771 - 3/

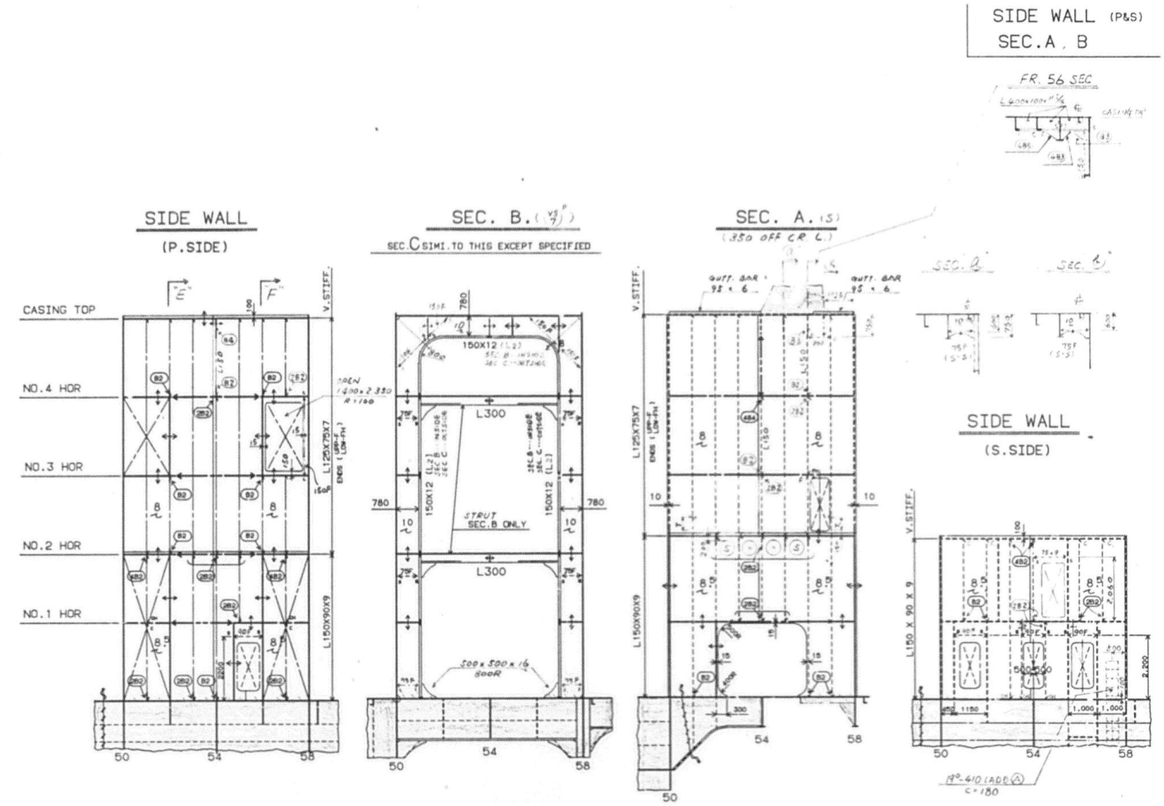
AFT WALL

AFT WALL (FR.50)

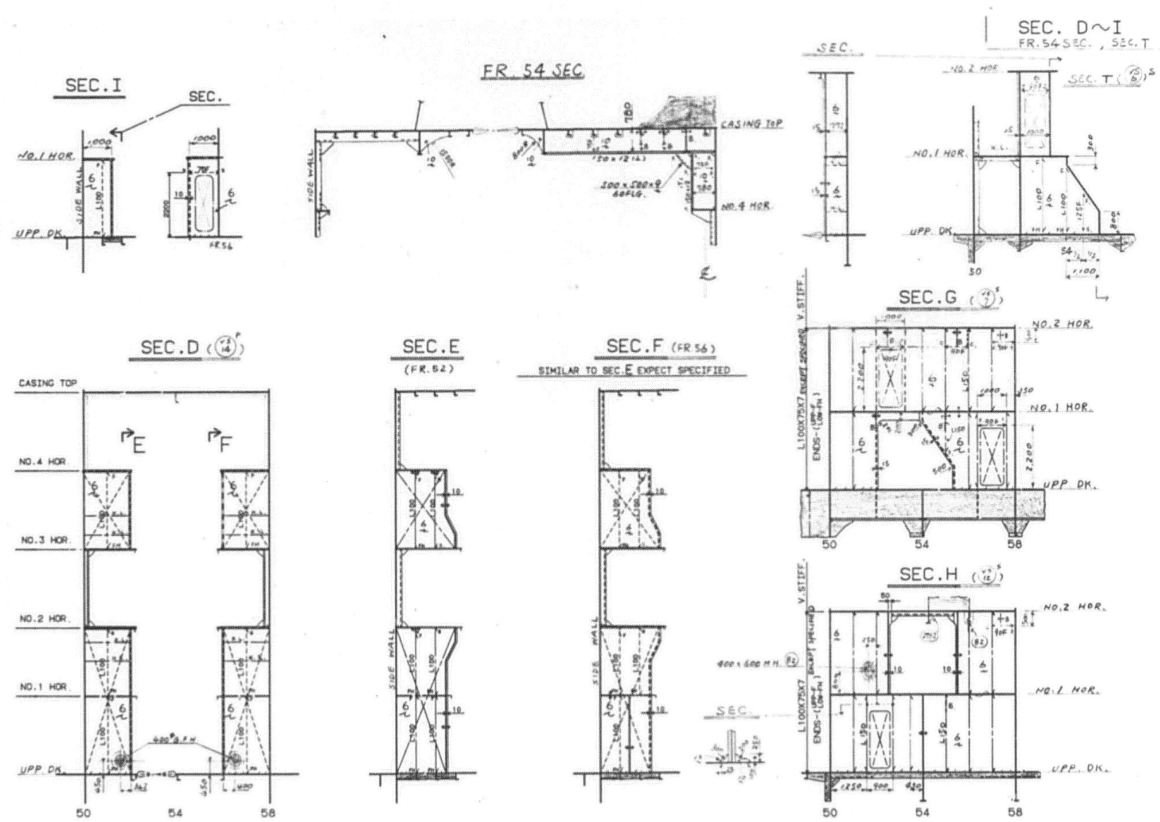
SIMILAR TO FRONT WALL EXCEPT SPECIFIED



2105771 - 4

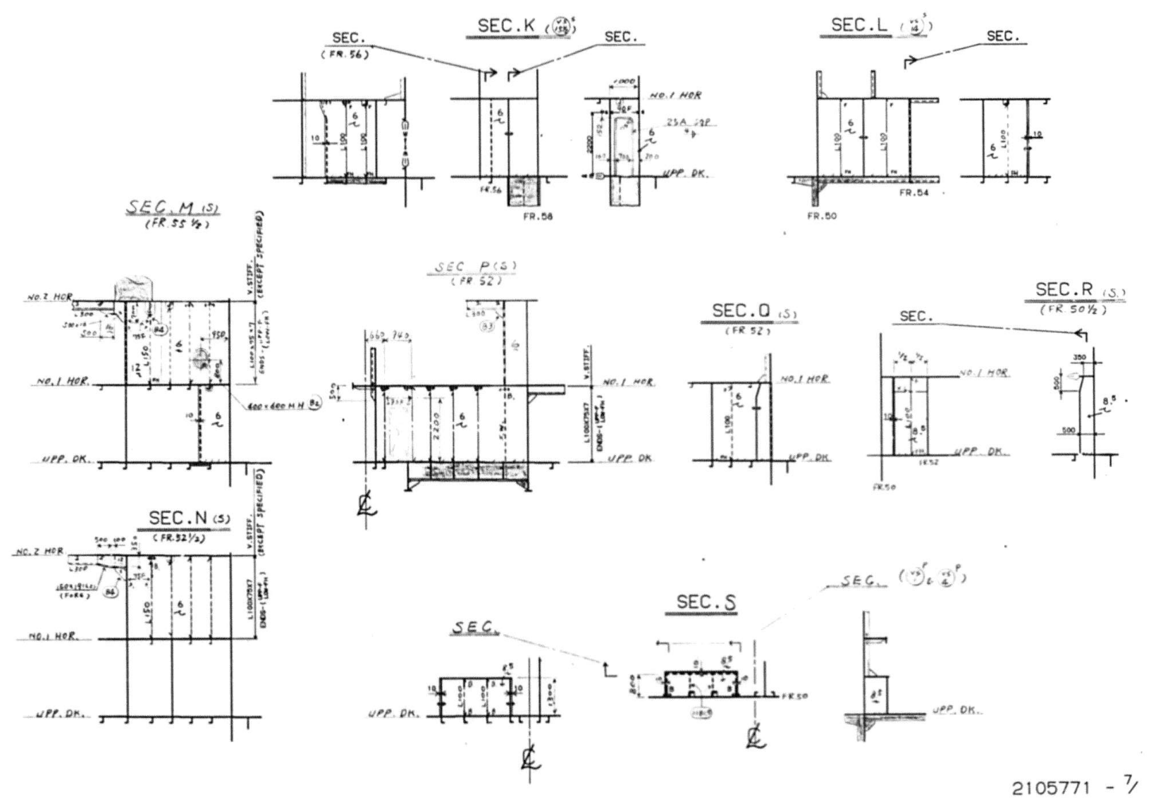


2105771 - 5/



2105771 - 6/

SEC. K~S



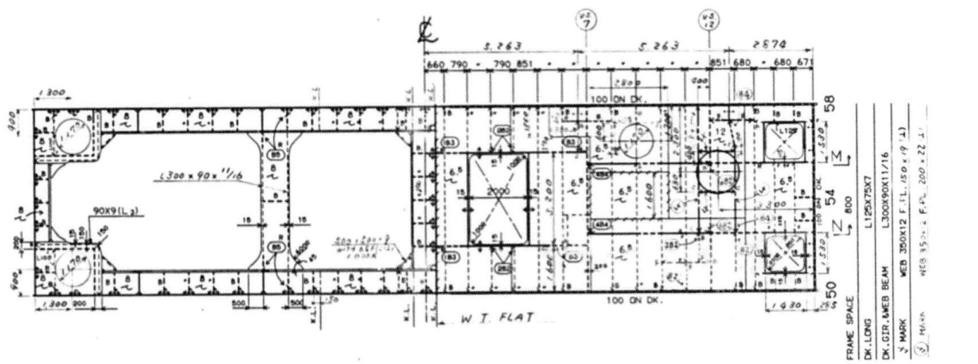
2105771 - 7/

NO.1 HOR.PLAN
NO.2 HOR.PLAN

NO.2 HOR.PLAN(P)&CASING TOP(S)

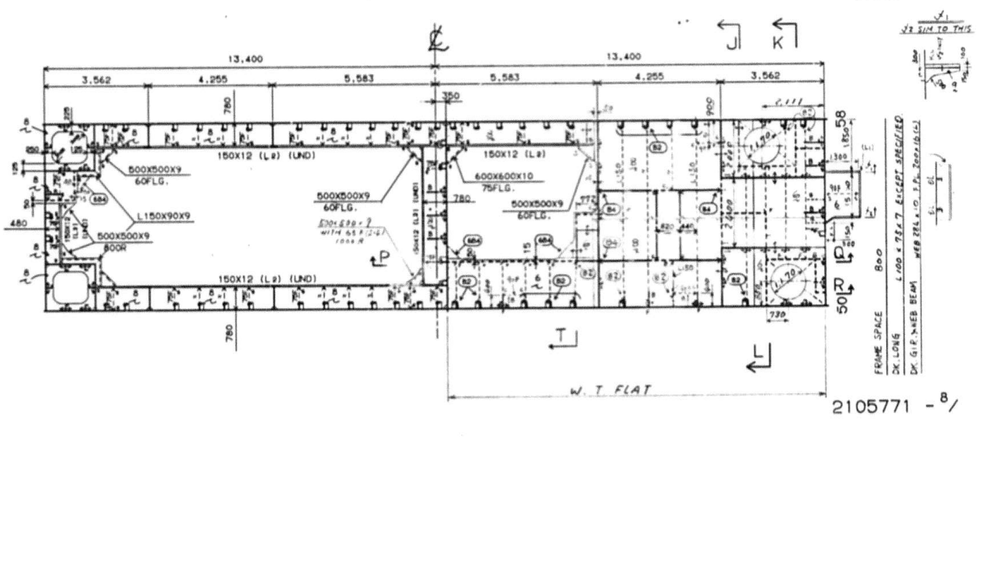
5.550 ABOVE UPP.DK.CR.L.

SIMILAR TO NO.1 HOR.PLAN EXCEPT SPECIFIED



NO.1 HOR.PLAN

2600 ABOVE UPP.DK.CR.L.



2105771 - 8/

NO.3 H.PLAN
NO.4 H.PLAN
CAS.TOP

NO.3 HOR.PLAN

7,650 ABOVE UPP.DK.CR.L.

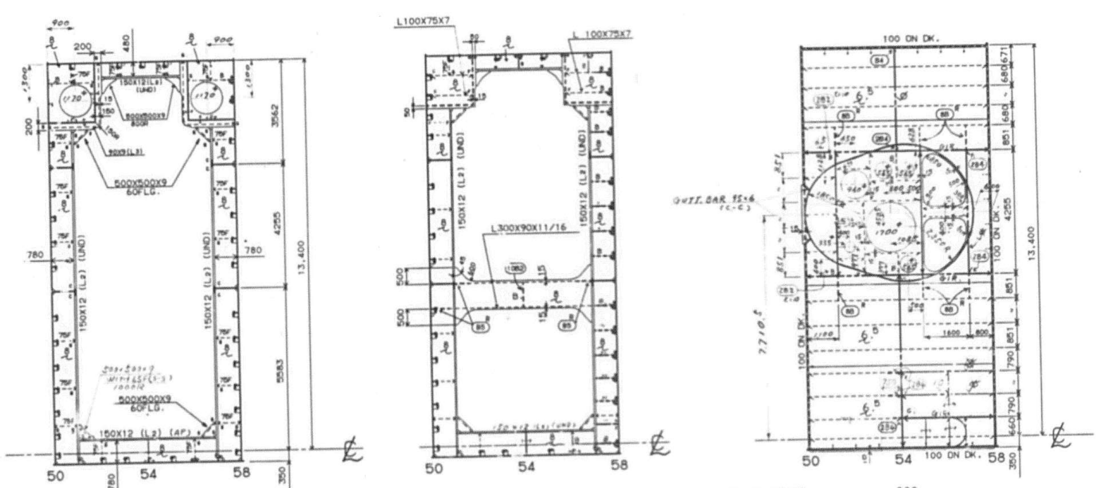
NO.4 HOR.PLAN

SIMILAR TO NO.3 HOR.PLAN EXCEPT SPECIFIED

10,350 ABOVE UPP.DK.CR.L.

CASING TOP PLAN

13,150 ABOVE UPP.DK.CR.L.



FRAME SPACE	800
DK.LONG & CARL	L 125X75X7 (ENDS:F)
DK.GIR.& WEB.BM.	WEB 780X10 F.PL.150X12(L)
Ø MARK	L300X90X /16
* MARK	L400×100×11.5/16

2105771 - 9/9

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL					17 SEP '86	T-8-2		
2ND REV	9 OCT '86	MES-989			11 NOV '86	T-8-2		
1ST PART REV	6 NOV '86	TAM/100			11 NOV '86	T-8-2		
2ND PART REV	6 NOV '86	TAM/97			11 NOV '86	T-8-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — MANAGER: [signature] — STRUCTURE DESIGN SEC.

SHIP'S NO.: 1325 — SHIP'S NAME: TILLIE LYKES

ファンルーム構造
FAN ROOM CONST.

DATE: (TEL. 2230) — JOB NO.: TS1323/24/25 — SCALE: 1/100 — LYKES REF. NO.: 111708 — MITSUI DRAWING NO.: 2105702

(9 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV. 28. '86

DWG. NO. 2105702-1

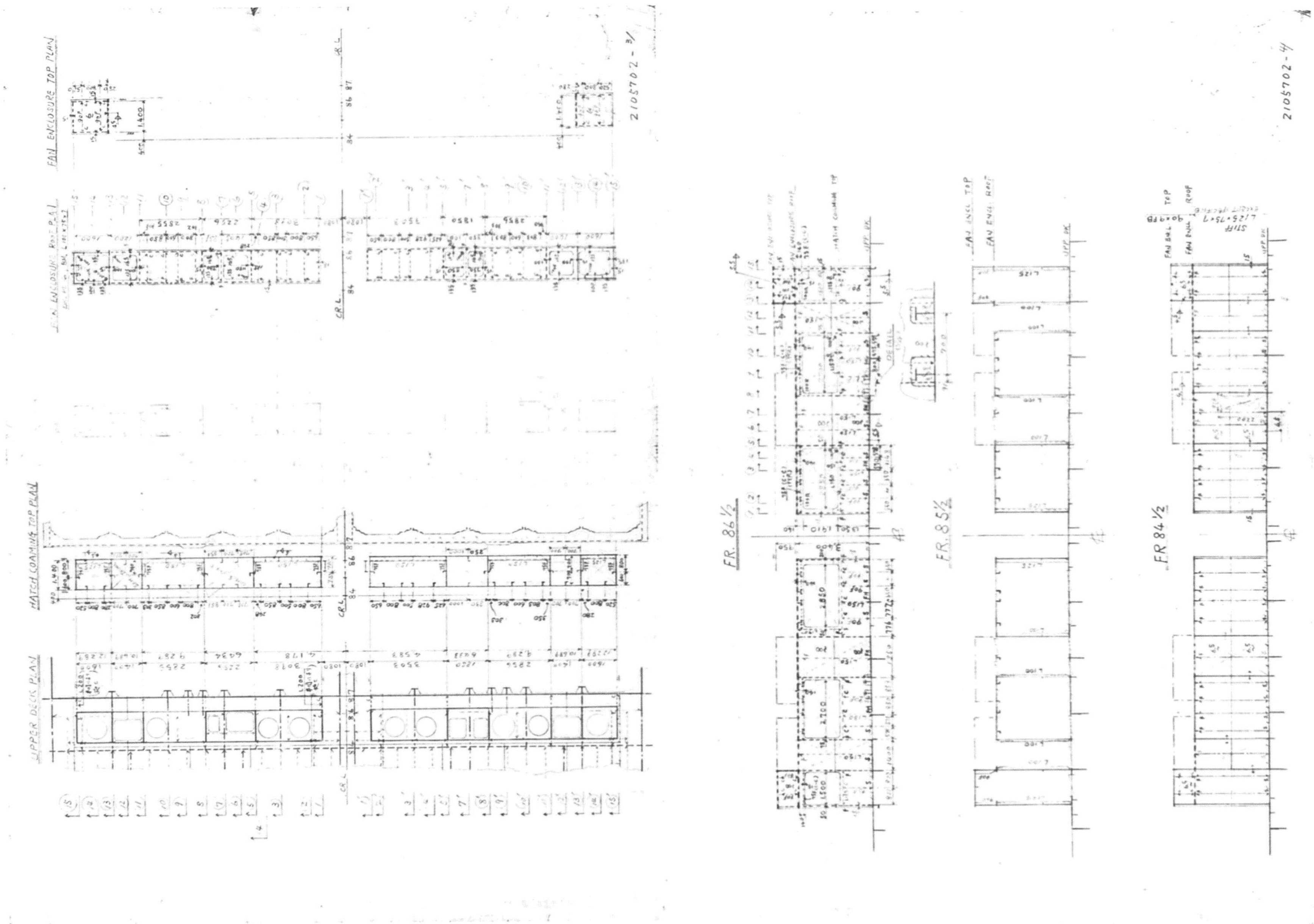
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING AFT" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
5. CAMBER ------ NONE

備 考:-

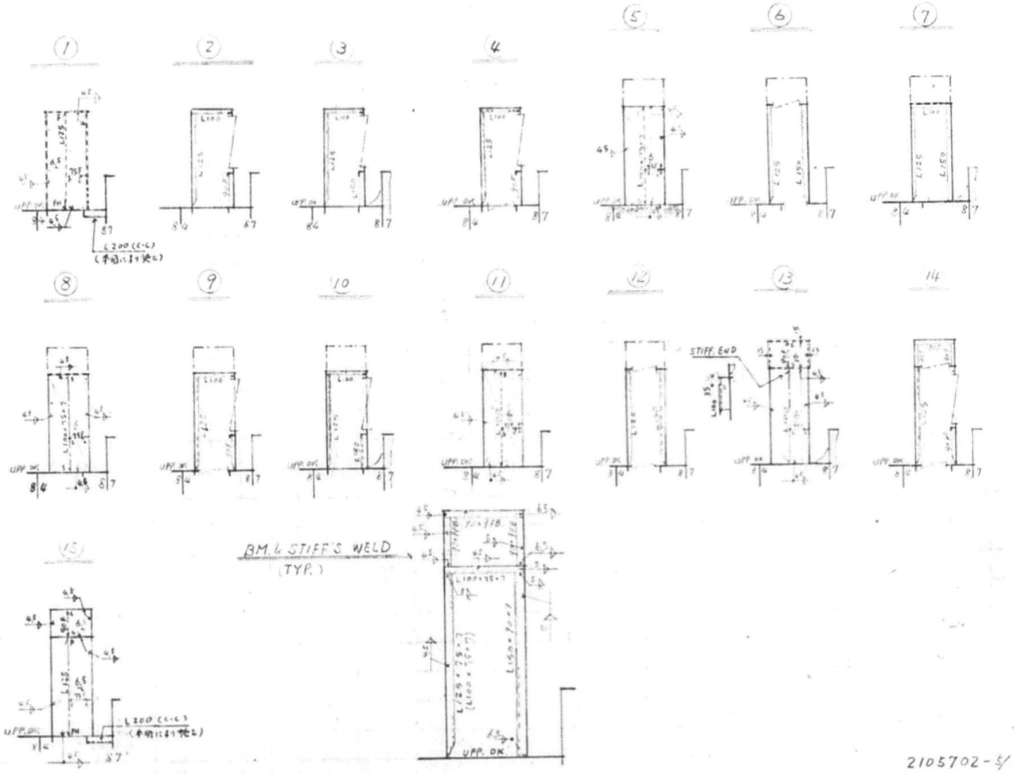
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は前面を示す。
3. 構造詳細については，特記の他は
   "構造詳細図（図番 2100811）"を参照のこと。
4. 溶接脚長については，特記の他は
   "溶接脚長表（図番 2100832）"を参照のこと。
5. キャンバー ---- なし

2105702-2



FAN ENCLOSURE TOP PLAN
FAN ENCLOSURE ROOF PLAN
HATCH COAMING TOP PLAN
UPPER DECK PLAN
2105702-3/
FR. 86 1/2
FR. 85 1/2
FR 84 1/2
2105702-4

470



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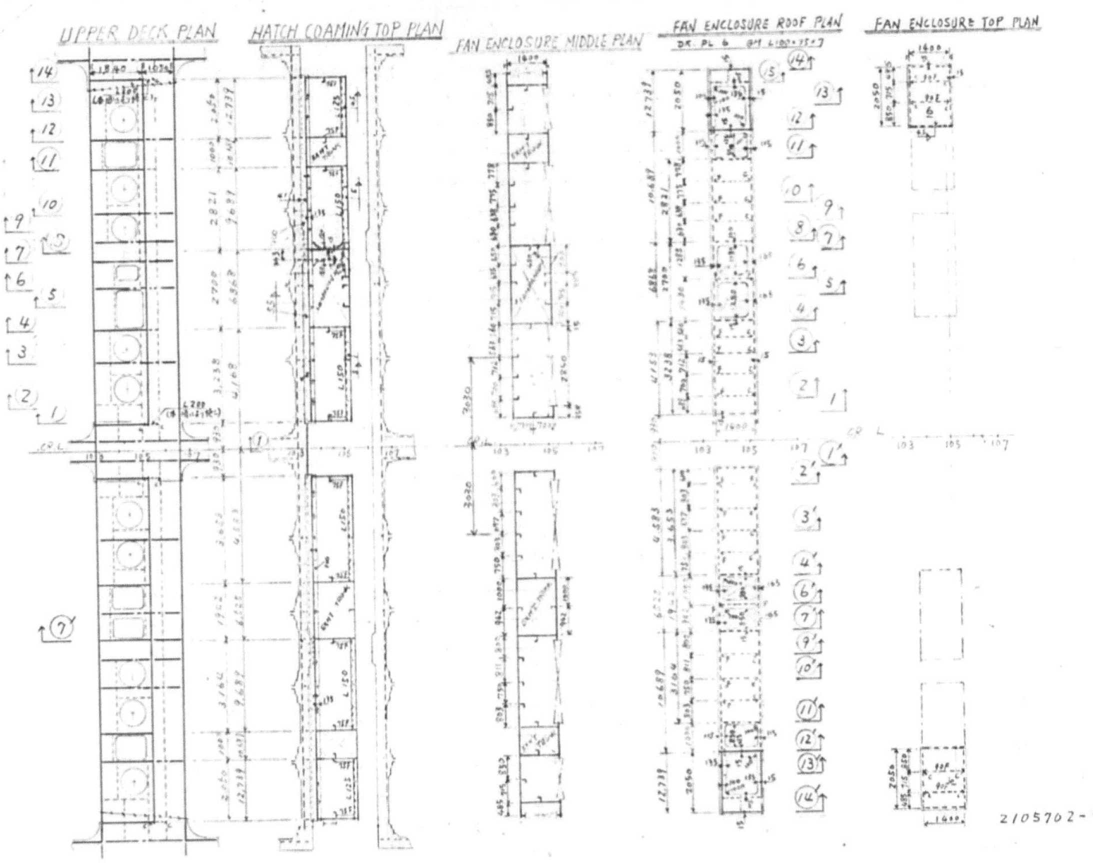
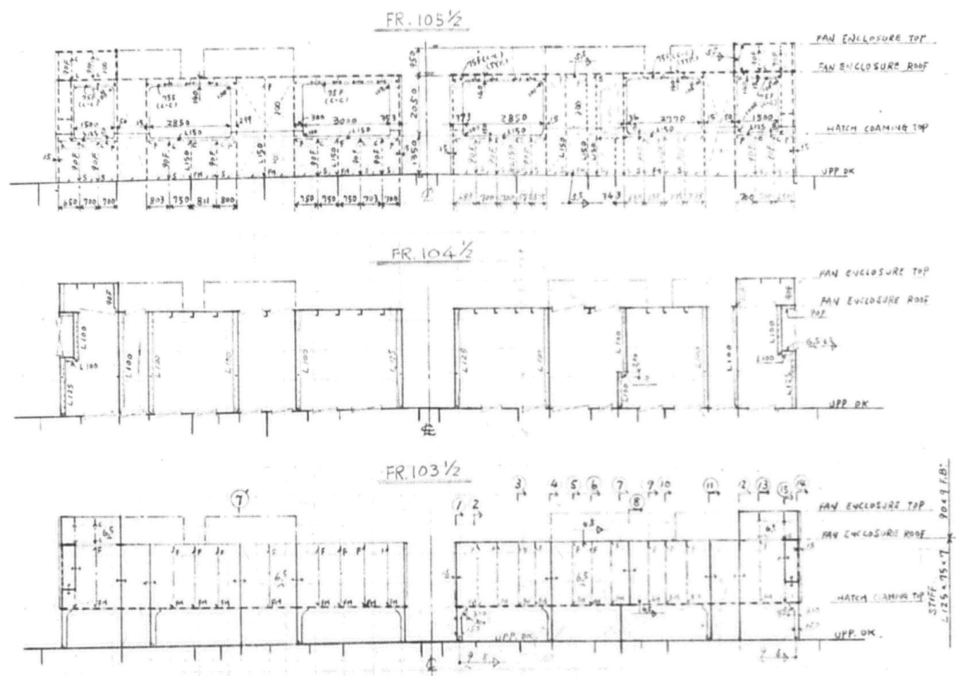
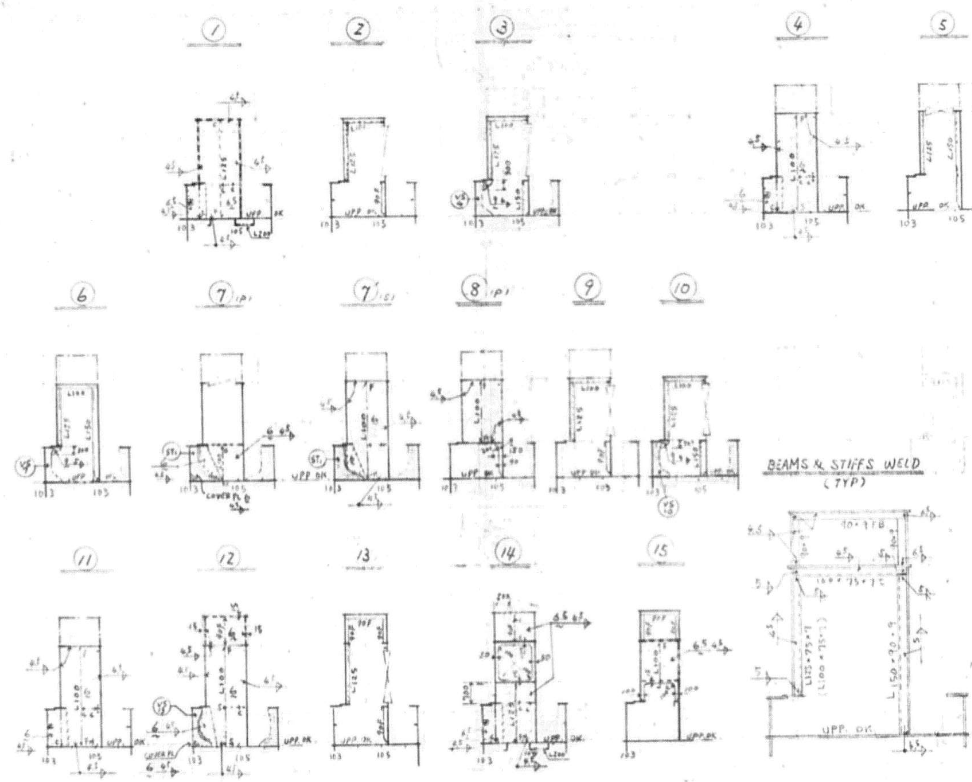


2105702-4/

471



2105702 - 7/



2105702 - 8/8

1/3

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN	JUL. 23, '85	
-10		FOLLOWED MES 1ST REVISED PLAN	SEP. 3, '85	
-20		Do. 2ND REVISED PLAN	SEP. 30, '85	
-21		Do. PARTLY REVISED PLAN NO. B1	OCT. 11, '85	
-22		Do. NO. B2	OCT. 15, '85	
-23	A	MODIFIED UNDER STRUCTURE AT FR. 103½ AFT WALL.	NOV. 29, '85	
-24	B	1. ADDED 400×600 W.T.M.H ON FR. 84½ & 96½ WALL FOR MAINTENANCE IN DUCT SPACE. 2. MODIFIED ARRG'T AND SIZE OF STIFFENER ON FR. 94½ WALL IN RELATION TO ABOVE ITEM. 3. CHANGED DIRECTION OF FLANGE OF STIFF. IN RELATION TO ARRG'T OF DAMPER HANDLE.	MAR. 14 '86	
-F	—	PREPARED AS FINISHED PLAN FOR S. NO. 1158	MAR. 11 '87	

10 SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION		
	APPROVED	CLASS ABS	
	CHECKED	ファンルーム構造 FAN ROOM CONST.	
	DRAWN		
	SCALE		
	ORDER 01-15800 ~~01-15900~~ ~~01-16400~~	ITEM / DRAWING NO. HS-74420-F	LYKES REF. NO. 111708

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL								

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SHIPYARD AND SHIP'S NO. & NAME

MITSUI TAMANO		MITSUBISHI KOBE	
NO. 1323	DOCTOR LYKES	NO. 1158	JAMES LYKES
NO. 1324	ALMERIA LYKES	NO. 1159	JOSEPH LYKES
NO. 1325	TILLIE LYKES	NO. 1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT — STRUCTURE DESIGN SEC.

PARTLY REVISED PLAN NO. 2

ファンルーム構造
FAN ROOM CONST.

SCALE 1/100 — LYKES REF. NO. 111708 — MITSUI DRAWING NO. 2105702 B-2

(4 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS	JUN. 26 '85
A	A	MISCELLANEOUS RIVESION (DESIGN DEVELOPMENT)	Aug. 23 '85
B	B	REVISED ACCORDING TO OWNERS REQ.	SEP. 13 '85 H.Y
B1	B1	MISCELLANEOUS RIVESION (DESIGN DEVELOPMENT) (部分修正)	SEP. 28 '85 H.Y
B2	B2	MISCELLANEOUS RIVESION (DESIGN DEVELOPMENT) (部分修正)	OCT. 4 '85 H.Y

DWG. NO. 2105702-1/3

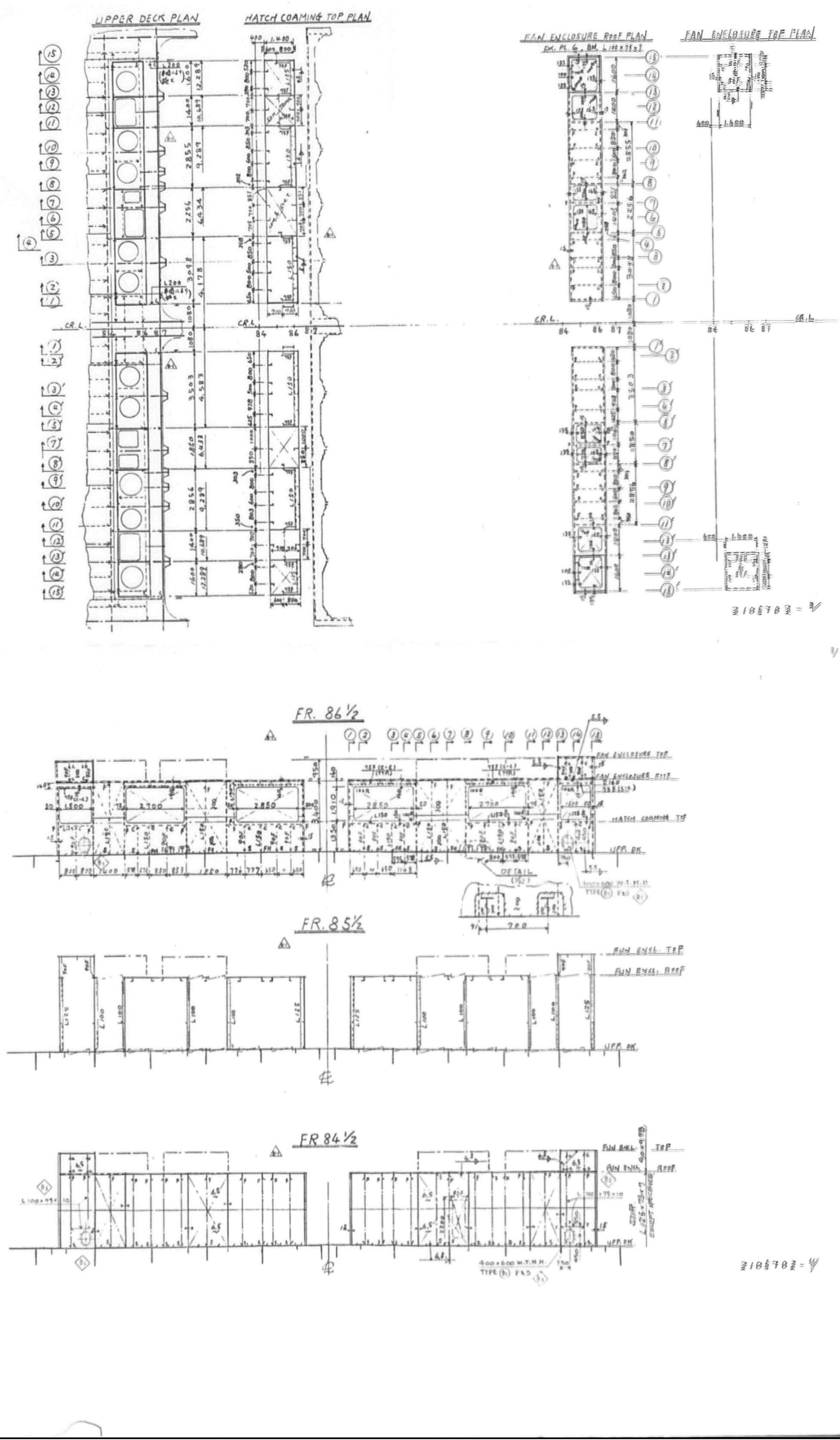
NOTES:-

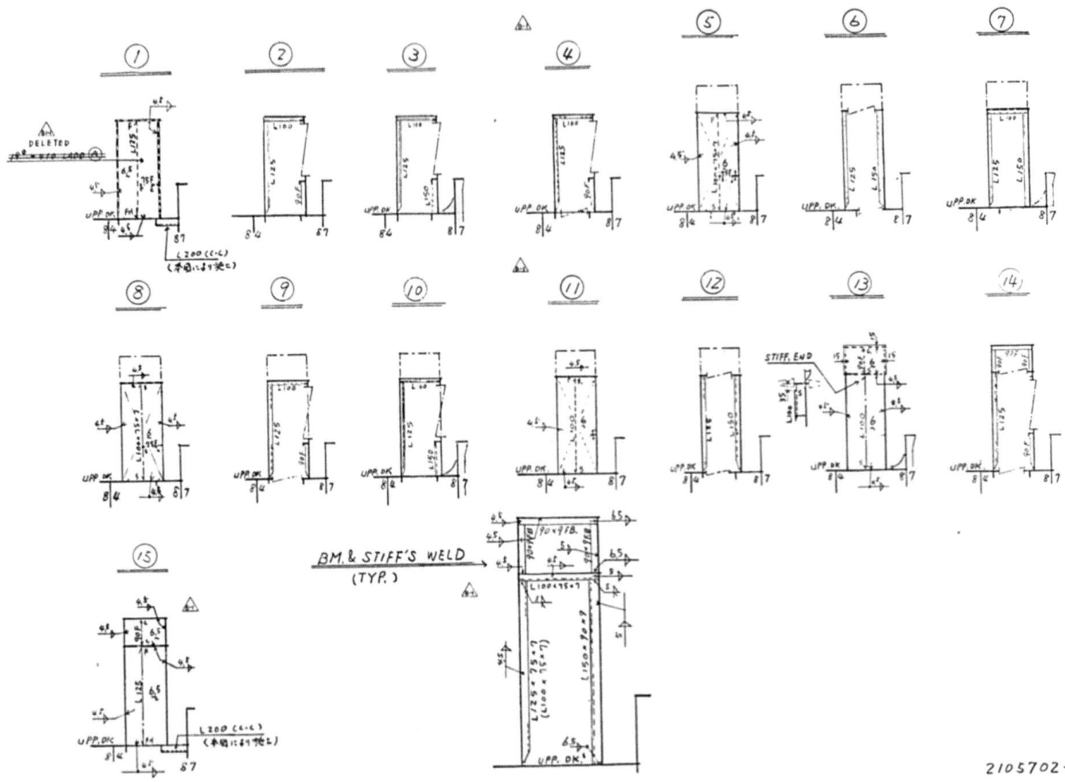
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING AFT" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
5. CAMBER ------ NONE

備考:-

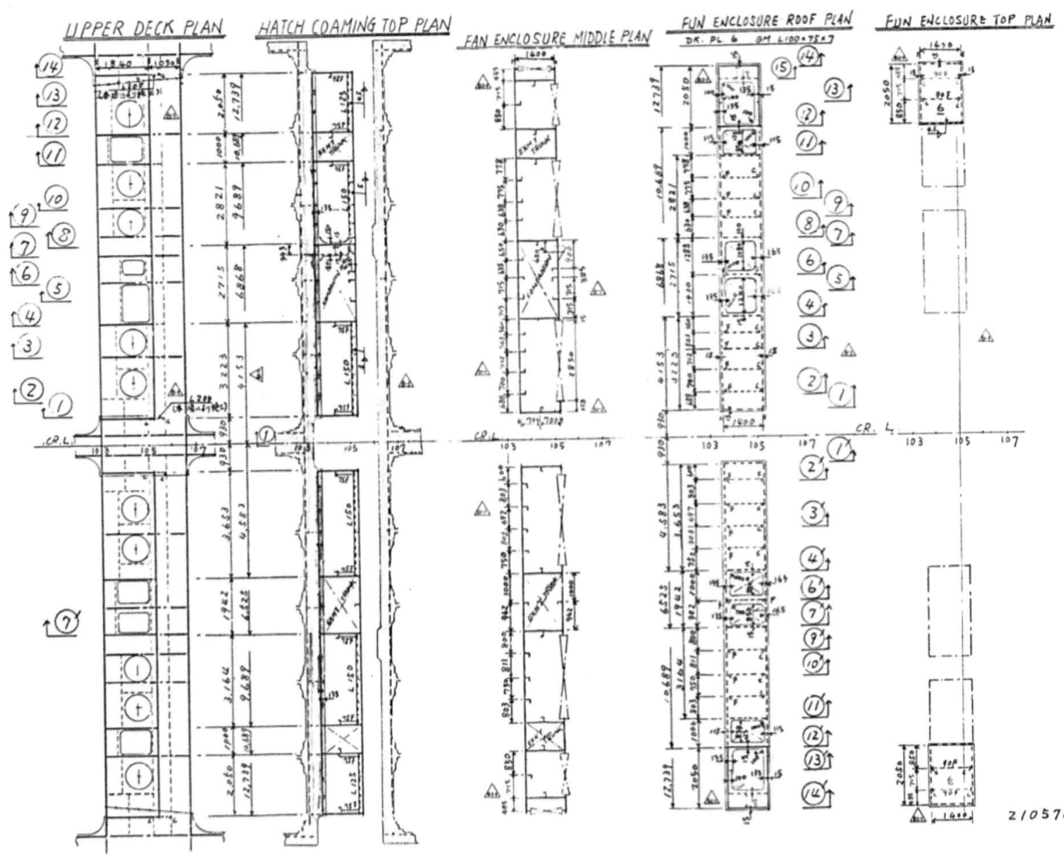
1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は艉面を示す。
3. 構造詳細については，特記の他は"構造詳細図(図番2100811)"を参照のこと。
4. 溶接脚長については，特記の他は"溶接脚長表(図番2100832)"を参照のこと。
5. キャンバー ---- なし

2105702-1


UPPER DECK PLAN
HATCH COAMING TOP PLAN
FAN ENCLOSURE ROOF PLAN
FAN ENCLOSURE TOP PLAN
FR. 86½
FR. 85½
FR 84½



2105702-5/



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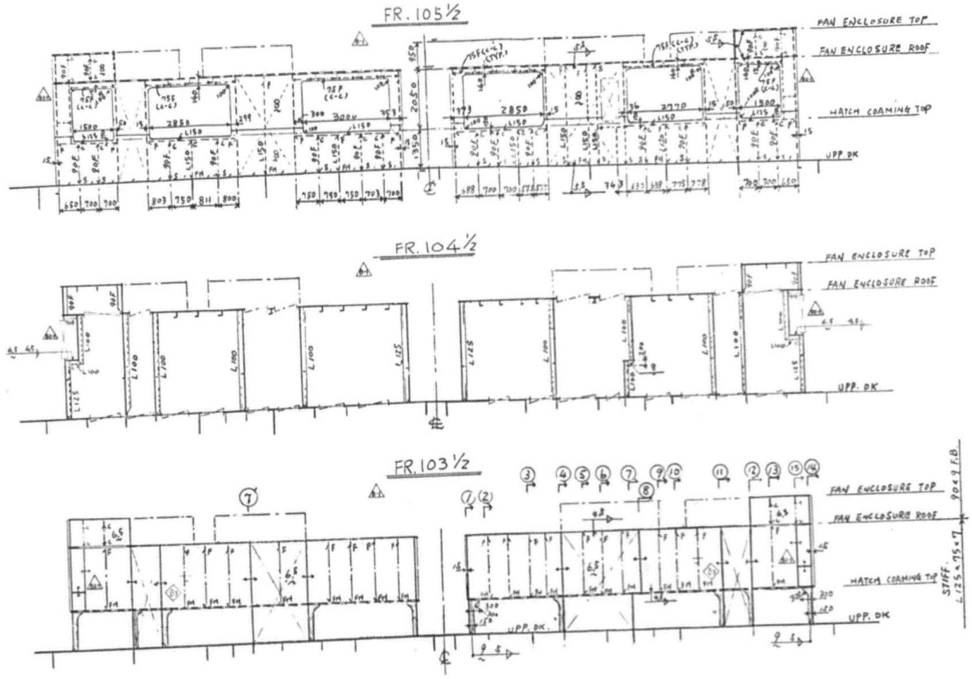
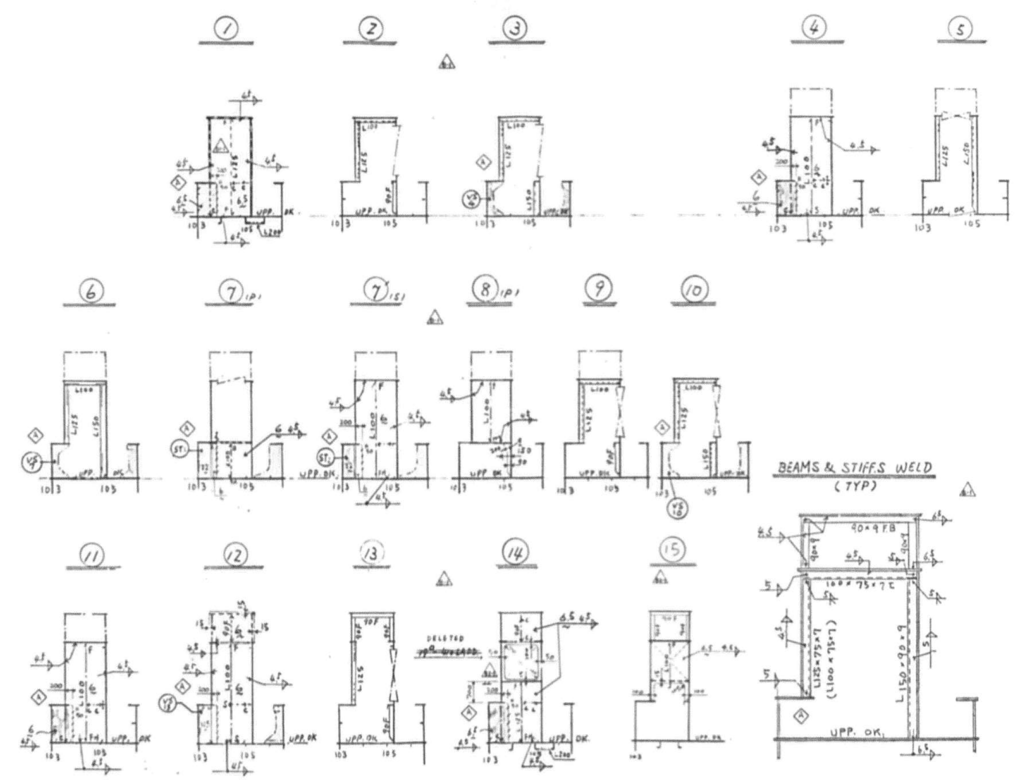


2105702 - 7/



2105702 - 8/8

APPROVAL OF OWNER & REGULATORY BODIES						
ALT. NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL						

FINISHED PLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE·LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER — SHIP'S NO. **1325** — SHIP'S NAME **TILLIE LYKES**

OUTFIT DESIGN SECT

諸試験成績書(船体艤装の部)

TEST RESULTS (HULL OUTFITTINGS)

DATE OCT. 8. 1986 (TEL.2236) — JOB NO. TS1325 — SCALE — LYKES REF. NO. 120001 — MITSUI DRAWING NO. 4120901 — REV.

(49 SHEETS WITH COVER)

PLAN RECORD			
REV. NO.	DATE	DESCRIPTION	CHECKED BY.
	OCT. 5 1986	PREPARED FOR S. NO 1325 AS FINISHED	OCT. 5 1986 K.M

NO.	ITEM	PAGE
1	RESULT OF AIR CONDITIONING TEST (COOLING)	4 ~ 9
2	RESULT OF VENTILATION TEST OF AIR COND. PLANT	10 ~ 17
3	RESULT OF MECH. VENT. TEST FOR ACCOMM. SPACE	18 ~ 21
4	FIRE PUMP TEST RESULT	22
5	RESULT OF PUMPING TEST	23 ~ 24
6	RESULT OF NO.5 HOLD VENTILATION TEST	25 ~ 27
7	RESULT OF PROV. REFRIG. TEST	28 ~ 29
8	RESULT OF LIFE BOAT LOW & HOIST TEST	30
9	ON BOARD TEST METHODS FOR ELEVATOR (ACCOMM.)	31 ~ 36
10	ON BOARD TEST METHODS FOR ELEVATOR (ENG. RM)	37 ~ 42
11	ON BOARD TEST REPORT FOR DUMBWAITER	43 ~ 45
12	TEST RECORD FOR ENGINE ROOM CRANE	46
13	TEST RECORD FOR BOATSWAIN'S STORE CRANE	47

三井造船株式会社

TS 1325 — TABLE III — WITNESS : MR. SUTTON

RESULTS OF COOLING TEST FOR ACCOMMODATION
(NO 1,2 AIR HANDLING UNIT RUNNING)

DATE: OCT. 4. 1986

	DECK	NAV. BR. DK.														
	CABIN	WHEEL HOUSE														
	TIME	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.
NO.1 AIR HANDLING UNIT RUNNING	9.45	22.0	18.0	66												
	11:30	23.0	16.0	45												
	12:30	23.0	16.0	45												
	13:30	23.0	16.0	45												
NO.2 AIR HANDLING UNIT RUNNING	14:30	23.0	16.5	48												
	15:30	23.5	16.5	46												
	16:30	23.0	16.0	45												
	DECK	SR. OFF. DK.														
	CABIN	CHIEF ENG. BED. RM (S)			1ST ASST. ENG. DAY RM (S)			COMPUTER RM. (C)			MASTER'S BED RM (S)			CHIEF MATE DAY RM (S)		
	TIME	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.
NO.1 AIR HANDLING UNIT RUNNING	9.45	21.0	18.0	73	22.0	19.0	74	20.0	17.0	73	19.0	16.5	76	22.0	19.0	74
	11:30	23.0	16.0	45	22.5	15.0	41	23.5	16.0	42	22.0	15.0	43	22.5	15.0	41
	12:30	23.5	16.0	42	22.5	15.0	41	23.5	16.0	42	22.5	15.0	41	22.5	16.0	48
	13:30	23.0	15.5	41	22.5	15.0	41	23.5	16.5	46	22.0	15.0	43	23.0	16.5	48
NO.2 AIR HANDLING UNIT RUNNING	14:30	23.5	17.0	49	22.5	15.5	44	23.5	16.5	46	22.0	15.5	47	23.0	17.0	52
	15:30	23.0	17.0	52	22.5	15.5	44	23.5	16.5	46	23.0	16.0	45	23.0	17.0	52
	16:30	23.0	16.5	48	22.5	15.5	44	23.5	16.5	46	23.0	16.0	45	23.0	16.5	48

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TS1325

TABLE III

WITNESS : MR. SUTTON

RESULTS OF COOLING TEST FOR ACCOMMODATION
(NO.1,2 AIR HANDLING UNIT RUNNING)

DATE: OCT. 4 1986

DECK		CREW DK.												SALOON DK.		
CABIN		WIPER NO.1 (C8)(P.S.)			ELECT. BED RM. (P.S.)			OS NO.1 (C13)(S.S.)			AB NO.1 (C7)(S.S.)			OUTSIDE TEMP		
	TIME	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.
NO.1 AIR HANDLING UNIT RUNNING	9.45	20.5	17.5	73	23.0	19.0	67	20.5	17.0	69	18.5	15.5	71	20.5	16.0	60
	11:30	27.0	16.0	51	23.0	17.0	52	22.5	16.0	48	21.5	14.5	43	21.0	17.0	65
	12:30	23.0	17.0	52	21.5	15.5	50	23.5	16.5	46	22.5	15.0	41	22.5	17.5	59
	13:30	23.0	17.0	52	23.5	16.5	46	24.0	17.0	46	22.5	15.0	41	22.0	17.5	62
NO.2 AIR HANDLING UNIT RUNNING	14:30	24.5	18.0	50	23.5	18.0	56	23.5	17.0	49	23.0	16.0	45	23.0	18.0	59
	15:30	23.5	16.5	46	24.0	19.0	60	24.0	17.0	49	23.0	16.0	45	21.0	18.0	73
	16:30	23.5	16.5	46	*23.0	17.5	56	*23.0	16.5	48	23.0	16.0	45	20.5	17.0	69

DECK		SALOON DK.														
CABIN		HOSPITAL (P.S.)			OFFR & PASS. DINNING (P.S.) RM.			CREW REC. RM. (C)			STEWARD OFFICE (S.S.)			CREW'S MESS RM. (S.S.)		
	TIME	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.
NO.1 AIR HANDLING UNIT RUNNING	9.45	20.5	17.0	69	21.0	18.0	73	20.5	17.5	73	19.0	16.0	72	21.5	17.5	66
	11:30	22.0	15.5	47	23.5	16.0	42	23.0	16.0	45	20.5	14.5	49	23.5	16.0	42
	12:30	23.0	16.0	45	23.5	16.0	42	23.0	16.0	45	21.5	15.0	46	24.0	17.0	46
	13:30	23.5	16.0	42	23.5	16.5	46	23.0	16.0	45	22.0	15.5	47	24.5	17.0	44
NO.2 AIR HANDLING UNIT RUNNING	14:30	24.0	17.0	46	23.5	17.0	49	23.0	17.0	52	23.0	16.5	48	23.5	17.0	49
	15:30	24.0	16.5	43	24.0	17.0	46	23.0	17.0	52	23.0	16.5	48	23.0	16.5	48
	16:30	*22.5	16.0	48	*22.5	16.5	51	23.0	16.5	48	23.0	16.5	48	23.0	16.5	48

* THERMOSTAT ADJUSTMENT

TS1325

TABLE III

WITNESS : MR. SUTTON

RESULTS OF COOLING TEST FOR ACCOMMODATION
(NO.1,2 AIR HANDLING UNIT RUNNING)

DATE: OCT. 4. 1986

DECK		PASS. DK.														
CABIN		PASS. BED RM. (P4)(P.S.)			PASS. BED RM. (P6)(P.S.)			PASS. LOUNGE (C)			PASS. BED RM. (P3)(S.S.)			PASS. BED RM. (P5)(S.S.)		
	TIME	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.
NO.1 AIR HANDLING UNIT RUNNING	9.45	20.0	17.5	77	22.0	18.0	66	21.0	18.0	73	19.0	17.0	81	21.0	18.0	73
	11:30	21.5	16.0	54	23.0	16.0	45	21.5	15.5	50	21.5	15.5	50	22.0	16.0	51
	12:30	22.5	16.5	51	23.0	16.3	47	22.0	15.5	47	22.5	16.2	49	23.5	16.8	48
	13:30	23.0	16.5	48	23.5	16.5	46	22.0	15.5	47	23.0	16.5	48	23.5	17.0	49
NO.2 AIR HANDLING UNIT RUNNING	14:30	23.5	17.0	49	24.0	17.0	46	22.0	16.0	51	24.5	17.5	47	23.5	17.0	49
	15:30	24.0	17.0	46	23.5	17.0	49	22.5	16.0	48	23.5	17.5	53	23.0	17.0	52
	16:30	*22.5	17.0	55	23.5	17.0	49	22.5	16.0	48	23.5	17.5	53	23.0	17.0	52

DECK		BOAT DK.														
CABIN		2ND. ASST. ENG. (B4)(P.S.) BED RM.			CADET (B10)(P.S.)			OFFICE REC. RM. (C)			NIGHT RELIEF (S.S.) MATE			2ND. MATE BED (S.S.) RM.		
	TIME	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.
NO.1 AIR HANDLING UNIT RUNNING	9.45	19.0	17.0	81	21.0	17.5	69	20.0	18.0	81	19.0	17.5	86	19.0	17.0	81
	11:30	21.0	15.0	49	22.5	16.5	51	22.0	15.5	47	20.5	15.5	56	20.5	15.5	56
	12:30	22.5	15.0	41	23.5	16.5	46	22.8	15.8	44	21.3	15.8	53	22.0	16.0	51
	13:30	23.0	15.5	41	24.0	17.0	46	23.0	16.0	45	22.0	16.0	51	22.5	16.5	51
NO.2 AIR HANDLING UNIT RUNNING	14:30	24.5	17.0	44	24.5	18.0	50	24.5	17.0	44	22.0	16.5	54	23.0	17.0	52
	15:30	25.0	17.5	44	25.0	18.0	48	24.5	17.0	44	22.0	17.0	58	23.5	17.0	49
	16:30	*22.5	16.5	51	*23.5	17.0	49	*23.0	17.0	52	22.0	17.0	58	*23.5	17.0	49

* THERMOSTAT ADJUSTMENT

TABLE IV

RESULTS OF. TS1325 TEST FOR AIR-COND. SYSTEM AND REFRIG. MACHINE

WITNESS : MR. SUTTON

DATE : OCT. 4. 1986

ITEM / TIME	REFRIGERAT. NO.1 COMPRESSOR							TEMP. OF COOLING WATER FOR CONDENSER		TEMP OF HEAT EXCHANGE		
	PRESS. OF "R-22" GAS		TEMP. OF "R-22" GAS		OIL TEMP. (°C)	MOTOR						
	DEL. (kg/cm²)	SUC. (kg/cm²)	DEL. (°C)	SUC. (°C)		AMPER (A)	REVOLUTION (r.p.m.)	INLET (°C)	OUTLET (°C)	INLET (°C)	OUTLET (°C)	
11:00	13.4	4.0	53	10	42	96		23	28			
11:30	13.2	4.2	55	8	44	96		24	27			
12:30	13.2	4.0	54	7	46	96		23	27			
13:30	13.2	4.0	54	6	46	96		23	28			

ITEM / TIME	REFRIGERAT. NO.2 COMPRESSOR							TEMP. OF COOLING WATER FOR CONDENSER		TEMP OF HEAT EXCHANGE		
	PRESS. OF "R-22" GAS		TEMP. OF "R-22" GAS		OIL TEMP. (°C)	MOTOR						
	DEL. (kg/cm²)	SUC. (kg/cm²)	DEL. (°C)	SUC. (°C)		AMPER (A)	REVOLUTION (r.p.m.)	INLET (°C)	OUTLET (°C)	INLET (°C)	OUTLET (°C)	
14:30	12	4.0	57	18.0	48	92		25	28			
15:30	12	3.9	58	18.0	53	92		25	28			
16:30	12	3.9	58	18.0	53	92		25	28			

TS1325

TABLE III

WITNESS : MR. SUTTON

RESULTS OF COOLING TEST FOR ACCOMMODATION
(NO.1,2 AIR HANDLING UNIT RUNNING)

DATE: OCT. 4. 1986

DECK		UPPER DK.														
CABIN		SLOP CHEST (P.S.)			SUEZ CANAL CREW CONF. RM. (P.S.)			GYMNASIUM (S.S.)			DRY PROV. STORE (S.S.)					
	TIME	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.
NO.1 AIR HANDLING UNIT RUNNING	9.45	19.0	16.0	72	21.0	18.5	78	19.5	16.5	72	18.0	17.0	90			
	11:30	20.5	14.5	49	22.5	16.0	48	22.0	15.0	43	19.0	16.0	72			
	12:30	22.0	15.5	47	23.5	16.5	46	22.5	15.5	44	22.5	16.5	51			
	13:30	22.5	15.5	44	23.5	16.5	46	23.0	16.0	45	23.0	17.0	52			
NO.2 AIR HANDLING UNIT RUNNING	14:30	22.5	16.0	48	23.5	17.0	49	24.0	17.0	46	24.0	18.0	53			
	15:30	22.5	16.0	48	23.5	17.0	49	23.5	16.5	46	24.0	18.0	53			
	16:30	22.5	16.0	48	23.5	16.5	46	23.5	16.5	46	*23.5	17.0	49			
DECK																
CABIN																
	TIME	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.	D.B.	W.B.	R.H.

* THERMOSTAT ADJUSTMENT

TABLE IV

WITNESS : MR. SUTTON

RESULTS OF COOLING TEST FOR AIR COND. SYSTEM AND A.H.U

DATE : SEP. 30. 1986 — A.H.U = AIR HANDLING UNIT

NO.1 CENTRAL UNIT

TIME	AIR TEMP. RETURN (°C)	AIR TEMP. FRESH (°C)	AIR TEMP. COOL (°C)	AIR TEMP. WARM (°C)	FAN MOTOR AMPER (A)	FAN MOTOR VOLTAGE (V)	STEAM PRESS. (kg/cm²)
start 11:00	19.0	19.0	9.5	22.0	55	460	3
11:30	20.0	20.0	9.0	25.5	55	460	3
12:30	21.0	21.0	9.0	25.0	54	460	3
13:30	21.0	21.5	9.0	25.0	54	460	3

NO.2 CENTRAL UNIT

TIME	AIR TEMP. RETURN (°C)	AIR TEMP. FRESH (°C)	AIR TEMP. COOL (°C)	AIR TEMP. WARM (°C)	FAN MOTOR AMPER (A)	FAN MOTOR VOLTAGE (V)	STEAM PRESS. (kg/cm²)
14:30	21.0	22.0	11.5	25.0	58	460	3
15:30	21.5	21.0	11.0	26.0	58	460	3
16:30	21.5	22.0	11.0	26.0	58	460	3

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図面来歴 PLAN HISTORY

KM1176

TS. No. 1325

RESULT OF

VENTILATION TEST OF

AIR COND. PLANT

工事区分 WORK DIV — 大 中 小

株式会社 鷹取製作所

TAKATORI MANUFACTURING CO. LTD.

技術部 設計 課

TECHNICAL DEP. DESIGN SECTION

課長 SECTION CHIEF | 係長 UNIT CHIEF | 主任 SUB CHIEF | 担当 CHARGE ENGR | 課員 STAFF

WITNESS : MR. SUTTON

検図 CHECKED | 製図 DATE OF DWG 昭和61年9月22日

出図 DATE OF ISSUE 昭和 年 月 日

類別番号 CLASSIFICATION NO.

図面番号 DRAWING NO. 4A-7350

表紙共 8 枚

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AIR CONDITIONING SYSTEM AIR VOLUME CONFIRMATION TEST RECORD

RM. NO.	DECK	ROOM NAME	DESIGNED AIR SUPPLY AIR VELOCITY M/SEC	DESIGNED AIR CAPACITY M³/HR	DESIGNED TOTAL AIR VOLUME M³/HR	MEASURED (COOL AIR) AIR VELOCITY M/SEC	MEASURED (COOL AIR) AIR CAPACITY M³/HR	MEASURED (COOL AIR) TOTAL AIR VOLUME M³/HR	MEASURED (WARM AIR) AIR VELOCITY M/SEC	MEASURED (WARM AIR) AIR CAPACITY M³/HR	MEASURED (WARM AIR) TOTAL AIR VOLUME M³/HR	D OR L
1	NAV. BRIDGE DECK	W/HOUSE	2.8	298		3.0	324		3.0	324		D
			2.8	298		2.8	298		3.0	324		
			2.8	298		3.0	324		3.0	324		
			2.8	298		3.0	324		3.0	324		
			2.8	298		3.0	324		3.0	324		
			2.8	297		2.9	313		3.0	324		
			2.8	297		2.9	313		3.0	324		
			2.8	297	2,381	2.9	313	2,533	3.0	324	2,592	
2		ELECT. RM.	2.2	236		2.4	252		2.4	252		D
			2.2	236		2.4	252		2.4	252		
			2.2	236	708	2.4	252	756	2.4	252	756	
3	SR. OFFICER'S DECK	C/E BED RM.	2.8	300	300	2.8	300	300	2.8	300	300	D
4		C/ENG. DAY RM.	1.9	203		2.2	236		2.2	236		D
			1.9	203	406	2.2	236	472	2.2	236	472	
5		C/ENG. OFFICE	2.1	220		2.2	236		2.2	236		D
			2.1	220	440	2.4	252	488	2.2	236	472	
6		COMPUTER RM.	2.3	242		2.0	216		2.0	216		D
			2.3	241		2.0	216		2.0	216		
			2.3	241	724	2.0	216	648	2.0	216	648	
7		MASTER'S OFFICE	2.1	220		2.4	252		2.1	220		D
			2.1	220	440	2.3	248	500	2.2	236	456	
8		MASTER'S DAY RM.	1.9	203		2.1	220		2.0	216		D
			1.9	203	406	1.9	203	423	2.0	216	432	

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AIR CONDITIONING SYSTEM AIR VOLUME CONFIRMATION TEST RECORD

RM. NO.	DECK	ROOM NAME	DESIGNED AIR SUPPLY AIR VELOCITY M/SEC	DESIGNED AIR CAPACITY M³/HR	DESIGNED TOTAL AIR VOLUME M³/HR	MEASURED (COOL AIR) AIR VELOCITY M/SEC	MEASURED (COOL AIR) AIR CAPACITY M³/HR	MEASURED (COOL AIR) TOTAL AIR VOLUME M³/HR	MEASURED (WARM AIR) AIR VELOCITY M/SEC	MEASURED (WARM AIR) AIR CAPACITY M³/HR	MEASURED (WARM AIR) TOTAL AIR VOLUME M³/HR	D OR L
9	SR. OFFICER'S DECK	MASTER'S BED RM.	2.8	300	300	3.0	324	324	2.8	300	300	D
10		CH. MATE DAY RM.	2.6	282		2.8	300		2.7	288		D
			2.6	281	563	2.8	300	600	2.6	278	566	
11		CH. MATE BED RM.	2.2	230	230	2.2	230	230	2.2	230	230	D
12		R/OFF. DAY RM.	1.6	176		1.6	176		1.8	194		D
			1.6	175	351	1.8	194	370	1.8	194	388	
13		R/OFF. BED RM.	1.3	144	144	1.5	158	158	1.5	158	158	D
14		R/RM.	2.6	278		2.7	288		2.8	300		D
			2.6	278		2.7	288		2.8	300		
			2.6	278		2.7	288		2.8	300		
			2.6	278	1,112	2.8	288	1,152	2.8	300	1,200	
15		1ST ASST.ENG.BED	2.3	243	243	2.4	252	252	2.5	266	266	D
16		1ST ASST.ENG.DAY	2.6	273		2.7	288		2.8	300		D
			2.5	272	545	2.7	288	576	2.8	300	600	
17	PASS. DECK	PASS.BED RM.(P4)	2.4	252	252	2.6	278	278	2.5	266	266	D
18		PASS.DAY RM.(P4)	1.6	176	176	1.8	194	194	1.7	177	177	D
19		PASS.DAY RM.(P2)	1.6	174	174	1.8	194	194	1.8	194	194	D
20		PASS.BED RM.(P2)	1.6	171	171	1.8	194	194	1.7	177	177	D
21		PASS.BED RM.(P1)	1.6	171	171	1.8	194	194	1.8	194	194	D
22		PASS.DAY RM.(P1)	1.6	175	175	1.8	194	194	1.8	194	194	D
23		PASS.DAY RM.(P3)	1.6	176	176	1.8	194	194	1.8	194	194	D
24		PASS.BED RM.(P3)	2.4	252	252	2.6	278	278	2.7	288	288	D
25		PASS.BED RM.(P5)	2.5	266	266	2.6	278	278	2.6	278	273	D

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AIR CONDITIONING SYSTEM AIR VOLUME CONFIRMATION TEST RECORD

RM. NO.	DECK	ROOM NAME	DESIGNED AIR SUPPLY			MEASURED AIR SUPPLY (COOL AIR)			MEASURED AIR SUPPLY (WARM AIR)			D OR L.
			AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	
26	PASS. DECK	PASS.DAY RM.(P5)	1.8	189	189	2.0	216	216	1.8	189	189	D
27		PASS. LOUNGE	2.7	288		2.9	313		2.8	300		D
			2.7	288		2.9	313		2.8	300		
			2.7	288		2.9	313		2.8	300		
			2.7	287		2.9	313		2.8	300		
			2.7	287	1,438	2.9	313	1,565	2.8	300	1,500	
28		PASS.DAY RM.(P6)	1.8	192	192	2.0	216	216	1.8	192	192	D
29		PASS.BED RM.(P6)	2.5	266	266	2.8	300	300	2.7	288	288	D
30	BOAT DECK	2ND ASST.ENG.BED	2.1	220	220	2.3	248	248	2.4	252	252	D
31		2ND ASST.ENG.DAY	2.0	210	210	2.2	236	236	2.0	210	210	D
32		PILOT (B2)	1.8	194	194	2.0	216	216	2.1	220	220	D
33		OFF. REC. RM.	2.2	233		2.3	248		2.3	248		D
			2.2	233		2.3	248		2.3	248		
			2.2	233		2.3	248		2.3	248		
			2.2	233	932	2.3	248	992	2.3	248	992	
34		2ND MATE DAY (B1)	2.1	224	224	2.3	248	248	2.4	252	252	D
35		2ND MATE BED (B9)	2.1	220	220	2.2	236	236	2.3	248	248	D
36		NIGHT RE.MATE (B7)	2.2	237	237	2.3	248	248	2.3	248	243	D
37		NIGHT RELIEF ENG.	1.7	177	177	2.0	216	216	2.0	216	216	D
38		3RD MATE DAY (B5)	2.1	228	228	2.3	248	248	2.2	236	236	D
39		3RD MATE BED RM.	1.0	111	111	1.2	130	130	1.3	140	140	D
40		3RD ASST.ENG.BED	1.0	111	111	1.4	151	151	1.1	119	119	D
41		3RD ASST.ENG.DAY	2.2	232	232	2.5	266	266	2.4	252	252	D

AIR CONDITIONING SYSTEM AIR VOLUME CONFIRMATION TEST RECORD

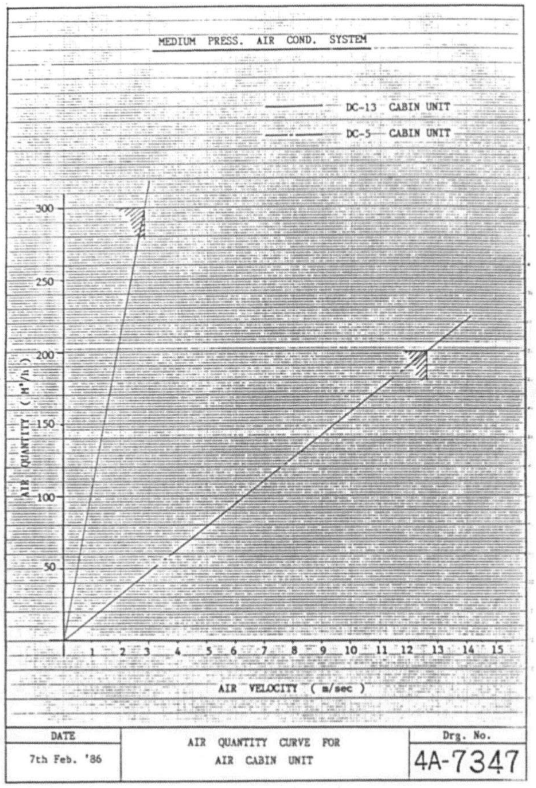
RM. NO.	DECK	ROOM NAME	DESIGNED AIR SUPPLY			MEASURED AIR SUPPLY (COOL AIR)			MEASURED AIR SUPPLY (WARM AIR)			D OR L.
			AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	
42	BOAT DECK	CADET (B8)	1.8	196	196	2.0	216	216	1.8	196	196	D
43		CADET (B10)	2.4	258	258	2.6	273	273	2.5	272	272	D
44	CREW DECK	WIPER NO.1 (C8)	2.0	216	216	2.1	224	224	2.3	248	248	D
45		WIPER NO.2 (C6)	1.5	158	158	1.6	170	170	1.5	158	158	D
46		SPARE (C4)	1.5	158	158	1.6	170	170	1.5	158	158	D
47		SPARE (C2)	1.5	158	158	1.6	170	170	1.8	196	196	D
48		SPARE (C1)	1.5	158	158	1.6	170	170	1.8	196	196	D
49		AB NO.3 (C3)	1.5	158	158	1.6	170	170	1.7	177	177	D
50		AB NO.2 (C5)	1.5	158	158	1.6	170	170	1.6	170	170	D
51		AB NO.1 (C7)	2.2	236	236	2.4	258	258	2.2	236	236	D
52		OS NO.1 (C13)	2.2	233	233	2.4	258	258	2.2	236	236	D
53		OS NO.2 (C11)	1.7	177	177	2.0	216	216	2.1	224	224	D
54		BOSUN DAY RM.(C9)	2.1	224	224	2.3	248	248	2.1	224	224	D
55		BOSUN BED RM.	1.6	170	170	1.8	196	196	1.9	200	200	D
56		STEW. BED RM.	1.6	169	169	1.8	196	196	1.9	209	200	D
57		STEW. DAY RM.	1.9	200	200	2.1	224	224	2.3	248	248	D
58		ELECT. DAY RM.	1.6	170	170	1.7	177	177	1.5	170	170	D
59		ELECT. BED RM.	1.8	196	196	1.9	200	200	1.9	204	204	D
60	SALOON DECK	HOSPITAL	2.8	302	302	2.8	302	302	2.8	302	302	D
61		STEW.UTILITY (S2)	1.5	158	158	1.7	177	177	1.6	170	170	D
62		CREW REC. RM.	2.5	272		2.5	272		2.6	273		D
			2.5	272		2.6	273		2.6	273		
			2.6	273		2.7	284		2.6	273		

AIR CONDITIONING SYSTEM AIR VOLUME CONFIRMATION TEST RECORD

RM. NO.	DECK	ROOM NAME	DESIGNED AIR SUPPLY			MEASURED AIR SUPPLY (COOL AIR)			MEASURED AIR SUPPLY (WARM AIR)			D OR L.
			AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	
62	SALOON DECK	DO	2.6	273	1,090	2.8	302	1,131	2.6	273	1,092	D
63		SPARE (S1)	1.4	154	154	1.7	180	180	1.6	170	170	D
64		CHIEF COOK (S3)	1.4	154	154	1.7	180	180	1.6	170	170	D
65		STEW. OFFICE	2.8	298	298	2.8	298	298	3.1	335	335	D
66		CREWMESS RM.	2.7	289		2.9	313		2.9	313		D
			2.7	288		2.9	313		2.9	313		
			2.7	288		2.9	313		2.9	313		
			2.7	288	1,153	2.9	313	1,252	2.9	313	1,252	
67		CREW PANTRY	4.1	65	65	5.0	80	80	5.0	80	80	L
68		GALLEY	10.9	174		11.0	175		11.0	175		L
			10.9	174	348	11.0	175	350	11.0	175	350	
69		OFFR. PANTRY	4.5	71	71	5.0	80	80	5.0	80	80	L
70		DUTY MESS. RM.	2.6	273	273	2.9	313	313	2.6	273	273	D
71		OFFR. & PASS. DINING	2.7	284		2.9	313		2.8	298		D
			2.7	284		2.9	313		2.8	298		
			2.7	284		2.9	313		2.8	298		
			2.7	284		2.9	313		2.8	298		
			2.6	283		2.9	313		2.8	298		
			2.6	283	1,702	2.9	313	1,878	2.8	298	1,788	
72	UPPER DECK	HOBBY RM.	1.9	204	204	2.1	224	224	2.2	236	236	D
73		SLOP CHEST	2.0	211	211	2.2	236	236	2.2	236	236	D
74		SUEZ CANAL	2.4	261		2.6	273		2.4	261		D
		CREW CONF.	2.4	261		2.6	273		2.4	261		

AIR CONDITIONING SYSTEM AIR VOLUME CONFIRMATION TEST RECORD

RM. NO.	DECK	ROOM NAME	DESIGNED AIR SUPPLY			MEASURED AIR SUPPLY (COOL AIR)			MEASURED AIR SUPPLY (WARM AIR)			D OR L.
			AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	AIR VELOCITY M/SEC	AIR CAPACITY M³/HR	TOTAL AIR VOLUME M³/HR	
74	UPPER DECK	DO	2.4	261	783	2.6	273	819	2.4	261	783	D
75		ENG. OFFICE	1.7	180	180	1.8	196	196	2.0	216	216	D
76		ARCHIVES RM.	3.8	60	60	4.5	72	72	4.5	72	72	L
77		BALLAST CONT. RM.	1.6	173		1.7	177		1.8	196		D
			1.6	173	346	1.8	196	373	1.9	203	399	
78		DECK OFFICE	2.1	228	228	2.1	228	228	2.3	248	248	D
79		GYMNASIUM	2.1	229		2.4	261		2.4	261		D
			2.1	229	458	2.4	261	522	2.4	261	522	
80		DRY PROV. STORE	2.4	255	255	2.7	284	284	2.7	284	284	D



TS 1325

TABLE II

RESULT OF MECHANICAL VENTILATION TEST

WITNESS: MR. SUTTON

OCT. 2 1986

System	DECK	SPACE	DESIGNED VOLUME (m^3/min)	DESIGNED AIR CHANGE (PER HR)	DESIGNED VELOCITY (m/sec)	GRID ARER (m^2)	MEASURED VELOCITY (m/sec)	MEASURED VOLUME (m^3/min)	MEASURED TOTAL CAPACITY
NO 1 EXH. SYSTEM (SANITARY SPACE S. SIDE) (31 m^3/min x 30 mmAq)	SR. OFFICER'S DK.	RADIO OFF BEDROOM LAV.	1.27	10	2.61	0.0081	2.7	1.31	
		CHIEF MATE "	1.27		2.61		2.7	1.31	
		MASTER'S "	1.27		2.61		2.7	1.31	
	PASS. DK.	PASS (P2) "	1.27		2.61		2.7	1.31	
		PASS (P1) BEDROOM LAV.	1.27	10	2.61		2.7	1.31	
		BAGG. LKR.	0.61	5	1.26		1.3	0.63	
		PASS (P3) BEDROOM LAV.	1.27	10	2.61		2.7	1.31	
		BAGG. LKR.	0.77	5	1.58		1.6	0.78	
		PASS (P5) BEDROOM LAV.	1.27	10	2.61		2.7	1.31	
	BOAT DK.	SERV. LKR.	1.38		2.84		2.9	1.41	
		2ND MATE (B1) BEDROOM LAV.	1.25		2.57		2.6	1.26	31.76 m^3/min
		NIGHT RELIEF ENG (B7) LAV.	[illegible]		2.06		2.1	1.02	
		(B9) "	0.97		2.00		2.1	1.02	
	CREW DK.	STEWARD BEDROOM LAV.	1.27		2.61		2.7	1.31	
		SPARE (C2) LAV.	0.98		2.02		2.1	1.02	
		BOSUN BEDROOM LAV.	1.27		2.61		2.7	1.31	
		SPARE (C1) LAV.	0.98		2.02		2.1	1.02	
		AB NO 3 (C3) LAV.	0.98		2.02		2.1	1.02	
		AB NO 2 (C5) LAV.	0.98		2.02		2.1	1.02	
		OS NO 2 (C11) LAV.	1.07		2.2		2.2	1.07	
		AB NO 1 (C7) LAV.	0.98		2.02		2.1	1.02	
		OS NO 1 (C13) LAV.	1.07		2.2		2.2	1.07	
	SALOON DK.	W.C.	0.98		2.02		2.1	1.02	
		SPARE (S1) LAV.	0.98		2.02		2.1	1.02	
		CHIEF COOK (S3) LAV.	0.98		2.02		2.1	1.02	
		STEWARD STORE	2.97	10	2.93	0.0169	3.5	3.55	

TS 1325

TABLE II

RESULT OF MECHANICAL VENTILATION TEST

WITNESS: MR. SUTTON

OCT. 2 1986

System	DECK	SPACE	DESIGNED VOLUME (m^3/min)	DESIGNED AIR CHANGE (PER HR)	DESIGNED VELOCITY (m/sec)	GRID ARER (m^2)	MEASURED VELOCITY (m/sec)	MEASURED VOLUME (m^3/min)	MEASURED TOTAL CAPACITY
NO 2 EXH. SYSTEM (SANITARY SPACE P. SIDE) (57 m^3/min x 30 mmAq)	NAV. BRIDGE DK.	SERV. LKR.	0.90	10	1.85	0.0081	1.9	0.92	
		W.C.	0.80	10	1.65	"	1.7	0.83	
	SR. OFFICERS DK.	CHIEF ENG. BEDROOM LAV.	1.27	10	2.61	"	2.7	1.31	
		SERV. LKR.	1.57	10	3.23	"	3.3	1.60	
		LAUNDRY	2.75	15	3.18	0.0144	3.3	2.85	
		1ST. ASST. ENG BEDROOM LAV.	1.27	10	2.61	0.0081	2.7	1.31	
		BAGG. LKR.	0.64	5	1.32	"	1.4	0.68	
	PASS. DK.	SERV. LKR.	2.34	10	3.70	0.0100	3.9	2.34	
		PASS (P4) BEDROOM LAV.	1.27	10	2.61	0.0081	2.7	1.31	
		LAUNDRY	2.15	15	2.96	0.0121	3.0	2.18	
		PASS (P6) BEDROOM LAV.	1.27	10	2.61	0.0081	2.7	1.31	
	BOAT DK.	2ND ASST. ENG. BEDROOM LAV.	1.27		2.61		2.7	1.31	
		PILOT	0.95		1.95		2.0	0.97	
		CADET (B10) LAV.	1.07		2.20		2.4	1.17	
		" (B8) "	1.07	10	2.20		2.3	1.12	38.2 m^3/min
		BAGG. LKR.	0.81	5	1.67		1.7	0.83	
		3RD. ASST. (B6) ENG BEDROOM LAV.	1.25	10	2.57		2.6	1.26	
		3RD. MATE BEDROOM LAV.	1.25		2.57		2.6	1.26	
	CREW DK.	WIPER NO. 1 (C8) LAV.	0.98		2.02		2.1	1.02	
		" NO. 2 (C6) "	0.98		2.02		2.1	1.02	
		SPARE (C4) LAV.	0.98		2.02		2.3	1.12	
		BAGG. LKR.	0.96		1.98	0.0081	2.0	0.97	
		SERV. LKR.	1.87		3.12	0.0100	3.2	1.92	
		LAUNDRY	2.88	15	3.30	0.0144	3.3	2.85	
		ELECTRICIAN BEDROOM LAV.	1.27	10	2.61	0.0081	2.7	1.31	
	SALOON DK.	HOSPITAL BATH	1.77		2.95	0.0100	3.0	1.80	
		STEWARD UTILITY	0.98		2.02	0.0081	2.1	1.02	
		SERV. LKR.	1.38		2.84	"	1.4	0.68	
	UPP. DK.	SUEZ CANAL CREW CONF. RM. LAV.	1.52		3.13	"	3.2	1.56	
		"	1.52		3.13	"	3.0	1.46	
		SERV. LKR.	1.90		3.17	0.0100	3.2	1.92	
		W.C.	0.73	10	1.50	0.0081	1.7	0.83	
		DK. CHANGE RM.	2.50	10	2.89	0.0144	2.9	2.5	
	2ND. DK.	SHIP'S LAUNDRY	5.60	15	2.25	0.044	2.3	5.71	
		"	5.60	15	2.25	0.0414	2.4	5.96	

TS 1325

TABLE II

RESULT OF MECHANICAL VENTILATION TEST

WITNESS: SUTTON

OCT. 2 1986

System	DECK	SPACE	DESIGNED VOLUME (m^3/min)	DESIGNED AIR CHANGE (PER HR)	DESIGNED VELOCITY (m/sec)	GRID ARER (m^2)	MEASURED VELOCITY (m/sec)	MEASURED VOLUME (m^3/min)	MEASURED TOTAL CAPACITY
NO 3 EXH. SYSTEM (66 m^3/min x 27 mmAq)	SALOON DK.	PANTRY (P.S.)	3.10	10	3.59	0.0144	3.6	3.11	
		PANTRY (S.S.)	2.90	10	3.99	0.0121	4.0	2.90	
		GALLEY	5.00	40	3.70	0.0225	3.8	5.13	
		GALLEY					3.8	5.13	90.04 m^3/min
		GALLEY					4.3	5.81	
		GALLEY	5.00		3.70	0.0225	3.8	5.13	
		GALLEY	40.00	40	1.4	0.476	2.2	62.83	
NO 4 EXH. SYSTEM (MISCEL SPACE) (31 m^3/min x 30 mmAq)	UPP. DK.	SWIMMING POOL	6.80	10	3.14	0.0361	3.2	6.93	
		SWIMMING POOL	6.80	10	3.14	0.0361	3.2	6.93	
		OIL SKIN LKR.	1.60	10	3.29	0.0081	3.3	1.60	
		BOND STORE	2.56	6	2.96	0.0144	3.0	2.59	30.69 m^3/min
	2ND DK.	DIRTY LINEN LKR.	6.18	10	3.18	0.0324	3.2	6.22	
		CLEAN LINEN LKR.	5.15	10	2.97	0.0289	3.0	5.20	
		LKR.	1.00	10	2.06	0.0081	2.5	1.22	
NO 5 EXH. SYSTEM (100 m^3/min x 80 mmAq)	2ND DK.	CO2 BOTTLE RM.	25.00	10	3.40	0.1225	3.5	25.73	
		"					3.7	27.20	
		"					4.0	29.40	108.79 m^3/min
		CO2 BOTTLE RM.	25.00	10	3.40	0.1225	3.6	26.46	

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DATE : SEP. 29. '86

S. NO. 1325 TEST PROCEDURE (& RESULTS) OF FIRE PUMPS

(A) OPERATION TEST

ITEM NO.	KIND OF	OPERATION	NO. & OPERATION PUMP	MEASUREMENT	F.N.S NO.1	F.N.S NO.2	F.N.S NO.13	F.N.S NO.16	F.N.S NO.17	F.N.S NO.18	F.N.S NO.19	F.N.S NO.20	F.N.S NO.41	F.N.S NO.42	DISCH. PRESS (kg/cm²)	SUC. PRESS. (kg/cm²)	REVOLUTION R.P.M.	CURRENT (A)	VOLTAGE (V)	REMARKS
					FIRE NOZZLE PRESSURE (kg/cm²)										FIRE PUMPS					
1	OPERATION TEST	JET FIRE WATER THROUGH 2-NOZZLES AT THE CONDITION THAT EACH ONE-FIRE PUMP IS RUNNING IN INDEPENDENTLY	NO.1 FIRE & G.S. PUMP	MEASURE & RECORD THE FOLLOWING DURING TEST 1. EACH NOZZLE PRESSURE BY USING PITOT GAUGE (MIN. 3.5 kg/cm²) 2. PUMP DISCH. PRESS. 3. PUMP SUC. PRESS. 4. PUMP REVOLUTION 5. MOTOR CURRENT 6. MOTOR VOLTAGE	5.3	5.7	—	—	—	—	—	—	—	—	11.2	0.3	1775	130	478	SEE ATTACHED DRAWING FIG. 1 & 2
2			NO.2 FIRE & G.S. PUMP		5.0	5.7	—	—	—	—	—	—	—	—	11.2	0.2	1779	165	478	
3			FWD. FIRE & G.S. PUMP		—	—	—	—	—	—	—	—	4.5	5.5	9.6	-180 mmHg	1780	90	480	
4		JET FIRE WATER THROUGH 7 NOZZLES AT THE CONDITION THAT TWO-FIRE PUMPS INSTALLED IN ENG. RM. ARE RUNNING SIMULTANEOUSLY			4.0	4.4	—	5.2	5.2	4.4	4.5	5.2	—	—	11.2	0	—	152	475	NO.1 FIRE & G.S. PUMP
															11.2	0	—	155	475	NO.2 FIRE & G.S. PUMP

ATTENDANCE : MR. NESMITH (USCG)
MR. WAKU (ABS)
MR. SHORMAN (OWNER)

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HULL NO. 1325 PUMPING TEST (DEBALLASTING)

BALLAST PUMP

TIME \ ITEM	SUC. PRESS (mm Hg)	DISCH PRESS (kg/cm²)	AMPERS	REVOLUTION	VOLT
14:41	0.1 kg/cm²	2.04	78 A	1750	475 V
14:51	0.1 kg/cm²	2.0	79 A	1750	475 V
15:01	0.0	1.9	79 A	1750	475 V
15:11	-100	1.9	79 A	1750	475 V

BILGE & BALLAST PUMP

TIME \ ITEM	SUC. PRESS (mm Hg)	DISCH. PRESS (kg/cm²)	AMPERS	REVOLUTION	VOLT
14:41	0.15 kg/cm²	2.07	74 A	1750	475V
14:51	0.15 kg/cm²	2.1	74 A	1750	475V
15:01	0.1 kg/cm²	2.0	75 A	1750	475V
15:10	-50	1.9	75 A	1750	475V

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TABLE II

RESULT OF MECHANICAL VENTILATION TEST

WITNESS : SUTTON

OCT. 2 1986

SYSTEM	DECK	SPACE	DESIGNED VOLUME (m³/min)	DESIGNED AIR CHANGE (PER HR)	DESIGNED VELOCITY (m/sec)	GRID AREA (m²)	MEASURED VELOCITY (m/sec)	MEASURED VOLUME (m³/min)	TOTAL CAPACITY
NO.6 EXH. SYSTEM (350m³/min x 100mmAq)	3RD. DK.	FWD. MACH. SPACE	350.00	20	4.17	1.4000	4.9	411.60	411.6 m³/min
NO.7 EXH. SYSTEM (45 m³/min x 37mmAq)	2ND. DK	ELEV. MACH. RM.	8.10	20	2.16	0.0625	2.3	8.63	48.09 m³/min
		FIRE STATION	1.58	5	3.25	0.0081	3.3	1.60	
		FWD. SWITCH BOARD. RM	18.50	40	3.01	0.1024	3.1	19.05	
		ELEV. TRUNK	6.60	5	3.05	0.0361	3.1	6.71	
	UPP. DK.	GARB. RM.	10.50	30	3.04	0.0576	3.5	12.10	
NO.1 SUPPLY SYSTEM (30m³/min x 37mmAq)	SALOON DK.	GALLEY	5.00	20	9.10	0.0092	9.5	5.24	38.25 m³/min
		"	5.00				8.5	4.69	
		"	5.00				8.8	4.86	
		"	5.00				14.0	7.73	
		"	5.00				14.5	8.00	
		GALLEY	5.00	20	9.10	0.0092	14.0	7.73	

SOUND. IN M
CAPACITY IN M³

HULL No. 1325 PUMPING TEST (DEBALLASTING)

DATE : OCT. 24, '86
ATTENDANCE : MR. SUTTON

TIME		NO.2 A. W.B TK. P	NO.2 A. W.B TK. S	NO.2 F. W.B TK. P	NO.2 F. W.B TK. S	P	S	P	S	TOTAL CAPACITY (m³/100mm)	DIFFERENT CAPACITY (m³/HR)	DRAFT (FORE/AFT)	DRAFT (P/S)
14:41	SOUND.	13.8	13.4	13.5	13.6								
	CORRECT.											5.7/6.0	5.8/6.0
	CAPACITY	704.8	686.0	492.5	494.2					2377.5	—		
14:51	SOUND.	12.8	11.8	12.0	12.1								
	CORRECT.											5.6/6.1	5.7/5.95
	CAPACITY	609.1	674	443.6	448					2148.1	1376		
15:01	SOUND.	11.0	10.4	10.5	10.6								
	CORRECT.											5.4/6.1	5.7/5.9
	CAPACITY	582.8	558.3	404.1	408.3					1953.5	1167		
15:11	SOUND.	9.5	8.95	9.2	9.3								
	CORRECT.											5.3/6.2	5.6/5.8
	CAPACITY	520.7	500.0	366.0	371.9					1758.6	1169		
	SOUND.												
	CORRECT.												
	CAPACITY												
	SOUND.												
	CORRECT.												
	CAPACITY												
	SOUND.												
	CORRECT.												
	CAPACITY												
	SOUND.												
	CORRECT.												
	CAPACITY												
REMARKS													

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TS 1325

TEST RESULT OF VENTILATION FAN
(HULL PART)

DATE : OCT. 6 1986
PLACE : ON BOARD
WITNESS: OWNER MR. SUTTON

RECORDING SHEET

LOCATION	SERVICE SPACE	VOLUME(M^3)	RELATED FAN	opening AREA (M^2)	VELOCITY (M/S)	AIR FLOW (M^3/MIN) REQUIRED	AIR FLOW (M^3/MIN) ACTUAL	MOTOR VOLT (V)	MOTOR AMP. (A)	REMARKS
LV-1	No. 5 HOLD	15730	No. 1 supp. FAN	2.865	3.6	600	618	476	26	
LV-2			No. 2 supp. FAN	5.444	4.3	1200	1404	476	24	
			No. 3 supp. FAN					476	26	
LV-3			No. 4 supp. FAN	5.730	4.0	1200	1375	476	24	
			No. 5 supp. FAN					476	26	
LV-4			No. 6 supp. FAN	5.444	3.9	1200	1273	476	24	
			No. 7 supp. FAN					476	25	
LV-5			No. 8 supp. FAN	5.291	4.2	1200	1333	476	25	
			No. 9 supp. FAN					476	25	
LV-6			No. 10 supp. FAN	2.865	3.6	600	618	476	25	

TS 1325 RESULT OF PROV. REF. TEST

WITNESS : MR. SUTTON
SEP. 30. 1986

DATE	TIME	No. 1 DEL. kg/cm²	No. 1 DEL. °C	No. 1 SUC. kg/cm²	No. 1 SUC. °C	No. 1 OIL PRESS. kg/cm²	No. 1 COOL. W. INLET (°C)	No. 1 COOL. W. OUTLET (°C)	No. 1 MOTOR Amp.	No. 2 DEL. kg/cm²	No. 2 DEL. °C	No. 2 SUC. kg/cm²	No. 2 SUC. °C	No. 2 OIL PRESS. kg/cm²	No. 2 COOL. W. INLET (°C)	No. 2 COOL. W. OUTLET (°C)	No. 2 MOTOR Amp.
S.61.9.30																	
10:30	10:30	13.0	–	1.3	–	4.8	26	27	7.8	12.5	–	1.4	–	5.2	26	27	7.7
START	11:00	12.6	71	0.8	24	3.9	26	27	6.5	12.1	74	0.9	23.5	4.4	26	27	6.8
	12:00	12.4	73	0.7	26	3.7	26	27	5.8	12.0	74	0.8	23.5	4.2	26	27	6.3
	13:00	12.3	72	0.8	28	4.0	26	27	5.8	12.0	74	0.8	22.5	4.2	26	27	6.2
	14:00	12.3	73	0.5	26	3.6	26	27	5.9	12.0	75	0.6	24	4.0	26	27	6.0
	15:00	12.2	76	0.3	31.5	3.3	27	27	5.3	11.8	77	0.4	33	3.8	27	27	5.2
	16:00	NO. 1 REF. MACH. AUTO STOP								NO. 2 REF. MACH. STOP.							
	17:00	12.6	72	0.5	35	3.4	26	27	6.1								
	18:00	NO. 1 REF. MACH. STOP								12.0	58	0.8	26	4.4	26	27	7.1
	19:00									12.2	69	0.6	34	3.9	26	27	6.0
	20:00									12.1	72	0.6	20	4.0	26	27	6.3
	21:00									12.2	68	0.7	[illegible]	4.2	26	27	7.0

RECORDING SHEET

LOCATION	SERVICE SPACE	VOLUME(M^3)	RELATED FAN	opening AREA (M^2)	VELOCITY (M/S)	AIR FLOW (M^3/MIN) REQUIRED	AIR FLOW (M^3/MIN) ACTUAL	MOTOR VOLT (V)	MOTOR AMP. (A)	REMARKS
LV-7	No. 5 HOLD	15730	No. 11 supp. FAN	2.865	3.6	600	618	476	24	
LV-8			No. 12 supp. FAN	5.157	4.6	1200	1423	476	26	
			No. 13 supp. FAN					476	25	
LV-9			No. 14 supp. FAN	5.444	4.3	1200	1404	476	25	
			No. 15 supp. FAN					476	26	
LV-10			No. 16 supp. FAN	5.444	4.2	1200	1371	476	25	
			No. 17 supp. FAN					476	25	
LV-11			No. 18 supp. FAN	5.157	4.6	1200	1423	476	26	
			No. 19 supp. FAN					476	25	
LV-12			No. 20 supp. FAN	2.865	3.7	600	636	476	25	

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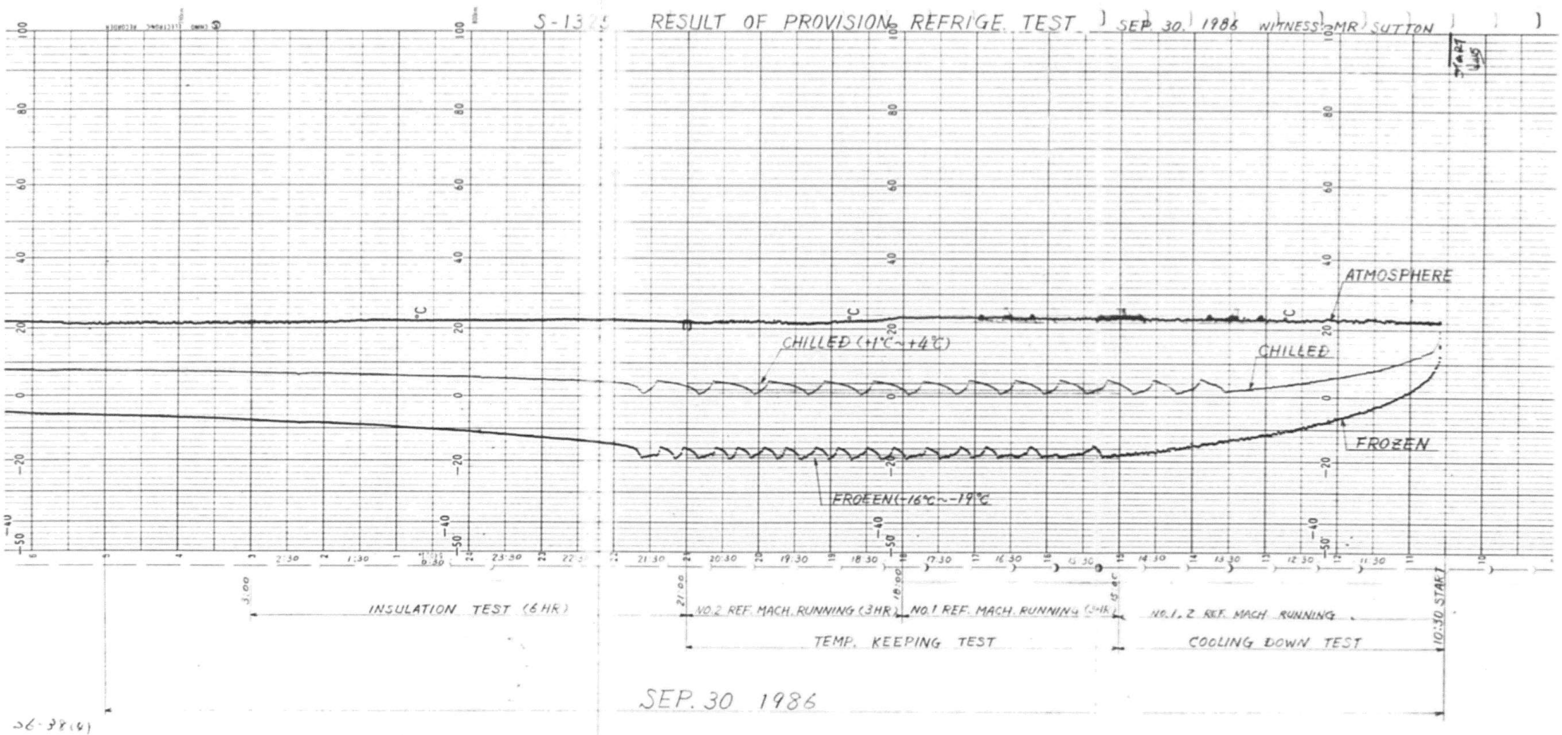

S-1323 RESULT OF PROVISION REFRIGE. TEST SEP. 30. 1986 WITNESS MR. SUTTON
ATMOSPHERE
CHILLED (+1°C~+4°C)
CHILLED
FROZEN
FROZEN(-16°C~-19°C)
INSULATION TEST (6 HR)
NO.2 REF. MACH. RUNNING (3HR)
NO.1 REF. MACH. RUNNING (3HR)
NO.1, 2 REF. MACH. RUNNING
TEMP. KEEPING TEST
COOLING DOWN TEST
10:30 START
SEP. 30 1986

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RESULT OF LIFE BOAT LOW.& HOIST. TEST

Check List

Test and check item	Result: stbd side	Result: port side	Remarks
Before starting			
Check means of lubrication	GOOD	GOOD	
Over load test			
Check release of gripe wires	GOOD	GOOD	
Clearance between lifeboat and ship's side	770 mm	590 mm	
Operation of brake (dry)	GOOD	GOOD	
~~Operation of brake (wet)~~	—	—	
Time of lowering (T)	19 sec	22 sec	
Lowering speed (V)	$V = \frac{10^M \times 60}{19}$ = 31.6 m/min (104.2 FT/min)	$V = \frac{10^M \times 60}{22}$ = 27.3 m/min (90 FT/min)	$V = \frac{L}{T}$ L : Distance of lowering
Check disengaging of hook	GOOD	GOOD	
Hoisting test			
Time of hoisting (T)	90 sec	86 sec	
Hoisting speed (V)	$V = \frac{10^M \times 60}{90}$ = 6.7 m/min (22.1 FT/min)	$V = \frac{10^M \times 60}{86}$ = 6.98 m/min (23.1 FT/min)	$V = \frac{L}{T}$ L : Distance of hoisting
Recovery test			
Automatic stop	GOOD	GOOD	
Turning out test			
Check setting of gripe wires	GOOD	GOOD	

Attendants: Owner Mr. SUTTON
U.S.C.G. Mr. HEINTS
ABS Mr. WAKU
MES Mr. KATSUURA

Data:
- STBD SIDE OCT. 7 1986
- PORT SIDE SEP. 30 1986
- DISENGAGING TEST OCT. 24 1986

ON BOARD TEST METHODS FOR ELEVATOR (ACCOMM.)

No 1

TS 1325

NIPPON ELEVATOR IND. CO., LTD.

PRINCIPAL ITEM

CUSTOMER	: LYKES BROS. STEAMSHIP CO., INC.
SHIP NO.	: 1325
TYPE	: SINGLE WRAP AUTOMATIC CONTROL
CAPACITY	: 500 Kg, 6 PERSONS
SPEED	: 60 m/min.
CONTROL SYSTEM	: AC-2 SINGLE AUTOMATIC CONTROL
POWER SOURCE	: AC 460 V, 3 PHASE, 60 Hz
TRACTION MACHINE	: TYPE "100OT"
MOTOR	: 7.5 KW, 6P, 1150r.p.m.
HOISTWAY STROKE	: 17.5 m
STOPS	: 7 STOPS
LANDING DOOR	: SWING DOOR (MANUAL)
CAGE DOOR	: SLIDING DOOR (AUTOMATIC)
BUFFER	: SPRING TYPE
SAFETY DEVICE	: GRUDUAL SAFETY

	NAME	DATE
INSPECTOR	ABS. Mr. WAKU	15. Oct. '86 / 10. Nov. '86
INSPECTOR	OW. Mr. MEGAFFY	15. Oct. '86 / 10. Nov. '86
INSPECTOR		- -
APPROVED BY		

TEST ITEM

1. Insulation test
2. Temperature rise test
3. Load test
4. Brake test
5. Governor test
6. Test of hoistway
7. Test of travel limit switch
8. Test of normal operation

1. Insulation resistance test by 500v megohms. DATE. 15. Oct. 86

No.	ITEM	SOURCE	EARTH-MEGOHMS	SUCCESS
1	Motor main circuit	AC 460 V	100 MΩ	good
2	Control circuit	AC 110 V	90 "	"
3	Brake circuit	DC 100 V	100 "	"
4	Indicator circuit	AC 110 V	100 "	"
5	Lamp circuit	AC 115 V	100 "	"
6	Signal circuit	DC 24 V	100 "	"
7	Door motor circuit	AC 200 V	100 "	"
8	Position sensor circuit	DC 24 V	100 "	"
9				

2. Temperature rise test DATE 15. Oct. 86

No.	ITEM	FINAL TEMP. °C COOL STATE	FINAL TEMP. °C HOT STATE	SUCCESS
1	Stator core of motor	26	28	good
2	Bearing of motor	23	26	"
3	Gear oil casing of traction machine	21	24	"
4	Double thrust ball bearing	21	24	"
5	Controller	22	25	"
6	Machine room	22	23	"

3. Load test

Check the following value, when the cage and counter weight are just passing through each other.

DATE 15.Nov.86

LOAD IN CAGE		MOTOR CURRENT (A)	MOTOR CIRCUIT VOLTAGE (V)	CAGE SPEED (m/min.)
0 %	up	5.6	465	57.0
	down	8.4	↑	55.5
25 %	up	5.6		57.5
	down	7.2		56.5
50 %	up	5.8		58.0
	down	6.2		56.5
75 %	up	6.7		57.0
	down	5.6		57.0
100 %	up	8.0		57.0
	down	5.4		57.5
110 %	up	8.4	↓	56.0
	down	5.1	465	57.5

Overe Load Alarm — OK

4. Brake test 15.Nov.86

Check at the load test. OK

Maximum load weight plus 25% of rated load.

5. Governor test

5.1 Governor machine 10. Nov. 86

1) Disconnect the governor rope from the cage. OK
2) Rotate the govenor sheave by pulling the rope. OK
3) Measure the actuated speed with a tachometer. OK

* Governor switch should be cut off at less than 84 m/min..

83 m/min.

5.2 Catching device 10.Nov.86

Check the operation of the catching device.

1) Connect the governor rope to the cage. OK
2) Trip the governor sheave by a hand. OK
3) Operate the cage by mean of pushing relay #2 OK located in the control panel.
4) Check to the cage stop at less than 0.3 m. OK

0.06 m.

6. Test of hoistway. 10.Nov.86

(Interlock switch, button and indicator lamp)

6.1 The operation corridor push button. OK
6.2 The electric corridor position indicator. OK
6.3 Test of hoistway doors and interlock switch. OK
(and escape hatch interlock)

DECK NAME	PUSH BUTTON & INDICATOR	INTERLOCK	Load 0 % UP	Load 0 % Down	Load 100 % UP	Load 100 % Down
Ser. Officer	OK	OK	-28	—	-12	—
Passanger	OK	OK	-28	-24	-6	+6
Crew	OK	OK	-27	-27	-7	+5
Boat	OK	OK	-25	-26	-5	+7
Sallon	OK	OK	-28	-28	-2	+3
Upper	OK	OK	-17	-17	+14	+15
2ND	OK	OK	—	-27	—	+3

(values in m/m)

Load Test 15.Oct.86

7. Test of over travel limit switch. 10.Nov.86

Check that the cage stops immediately by opening the each over travel limit switch for Up & Down, in manual control.

OK

8. Test of normal operation.

10.Nov.86
8.1 The operation of every button. OK
8.2 The alarm bell button. OK

15.Oct.86
8.3 Test of levelling.
The floor levelling error should be within ± 50 mm at no-load and full-load in cage.

Error—28 mm OK

10.Nov.86
9. Test of counterweight safety. OK
10. Operating test of manual hoisting device. OK
11. Test of buffers. Cage 400 → 350 mm, Counterweight 315 → 270 mm OK
12. Check all interlocks in main safety circuit. OK
13. Check safety switchboard controls. OK
14. Check door safety edge interlock. OK

ON BOARD TEST METHODS FOR ELEVATOR (ENG. RM.)

NO. 2

TS. 1325

NIPPON ELEVATOR IND. CO., LTD.

486

PRINCIPAL ITEM

CUSTOMER : LYKES BROS. STEAMSHIP CO., INC.
SHIP NO. : 1825
TYPE : SINGLE WRAP AUTOMATIC CONTROL
CAPACITY : 500 Kg, 6 PERSONS
SPEED : 30 m/min.
CONTROL SYSTEM : AC-1 SINGLE AUTOMATIC CONTROL
POWER SOURCE : AC 460 V, 3 PHASE, 60 Hz
TRACTION MACHINE : TYPE "750T"
MOTOR : 3.7 KW, 6P, 1150r.p.m.
HOISTWAY STROKE : 7.3 m
STOPS : 3 STOPS
LANDING DOOR : SWING DOOR (MANUAL)
CAGE DOOR : SLIDING DOOR (AUTOMATIC)
BUFFER : SPRING TYPE
SAFETY DEVICE : INSTANTANEOUS SAFETY

	NAME	DATE
INSPECTOR	ABS Mr. Woku	14. Oct. 80 8. Nov. 80
INSPECTOR	Owl Mr. McHarry	14. Oct. 80 8. Nov. 80
INSPECTOR		- -
APPROVED BY		

TEST ITEM

1. Insulation test
2. Temperature rise test
3. Load test
4. Brake test
5. Governor test
6. Test of hoistway
7. Test of travel limit switch
8. Test of normal operation

1. Insulation resistance test by 500v megohms. 14. Oct. 80

No.	ITEM	SOURCE	EARTH-MEGOHMS	SUCCESS
1	Motor main circuit	AC 460 V	100 MΩ	good
2	Control circuit	AC 110 V	↕	↕
3	Brake circuit	DC 100 V		
4	Indicator circuit	AC 24 V		
5	Lamp circuit	AC 115 V		
6	Signal circuit	DC 24 V	↕	↕
7	Door motor circuit	AC 200 V	100 MΩ	good
8				
9				

2. Temperature rise test 14. Oct. 80

No.	ITEM	FINAL TEMP. COOL STATE	FINAL TEMP. HOT STATE	SUCCESS
1	Stator core of motor	25 °C	35 °C	good
2	Bearing of motor	24	32	↕
3	Gear oil casing of traction machine	23	29	
4	Double thrust ball bearing	24	28	
5	Controller	24	25	↕
6	Machine room	24	24.5	good

3. Load test 14. Oct. 80

Check the following value, when the cage and counter weight are just passing through each other.

LOAD IN CAGE		MOTOR CURRENT (A)	MOTOR CIRCUIT VOLTAGE (V)	CAGE SPEED (m/min.)
0 %	up	5.9	470	29.5
	down	8.2		28.5
25 %	up	5.9		27.3
	down	7.2		28.7
50 %	up	6.4		29.0
	down	6.7		28.6
75 %	up	6.4		28.7
	down	6.2		28.7
100 %	up	6.9		28.5
	down	6.1		28.8
110 %	up	7.2		28.4
	down	6.1	470	28.9

4. Brake test 14. Oct. 80

Check at the load test. OK

Maximum load weight plus 25% of rated load. OK

5. Governor test

5.1 Governor machine 8. Nov. 80

1) Disconnect the governor rope from the cage. OK
2) Rotate the govenor sheave by pulling the rope. OK
3) Measure the actuated speed with a tachometer. OK

* Governor switch should be cut off at less than 53.3 m/min..

53 m/min.

5.2 Catching device 8. Nov. 80

Check the operation of the catching device.

1) Connect the governor rope to the cage. OK
2) Trip the governor sheave by a hand. OK
3) Operate the cage by mean of pushing relay #2 located in the control panel. OK
4) Check to the cage stop at less than 0.3 m. OK

0.11 m.

6. Test of hoistway. 8. Nov. 80
(Interlock switch, button and indicator lamp)

6.1 The operation corridor push button. OK
6.2 The electric corridor position indicator. OK
6.3 Test of hoistway door and interlock switch. OK
(and escape hatch interlock)

DECK NAME	PUSH BUTTON & INDICATOR	INTERLOCK	Load 0% up	Load 0% down	Load 100% up	Load 100% down
Partial	OK	OK	0	—	-35	—
2ND	OK	OK	+11	-20	-24	-24
3RD	OK	OK	—	+7	—	-40

Load Test 14. Nov. 88

487

7. Test of over travel limit switch. 8. Nov. 80

Check that the cage stops immediately by opening the each over travel limit switch for Up & Down in manual control.

OK

8. Test of normal operation. 8. Nov. 80

8.1 The operation of every button. OK

8.2 The alarm bell button. OK

8.3 Test of levelling.

The floor levelling error should be within ± 50mm at no-load and full-load in cage.

Error -40mm OK

9. Test of counterweight safety. OK

10. Operating test of manual hoisting device. OK

11. Test of buffers. Cage 400mm -> 350mm, Counterweight 315mm -> 280mm OK

12. Check all interlocks in main safety circuit. OK

13. Check safety switchboard controls. OK

14. Check door safety edge interlock. OK

ON BOARD TEST REPORT FOR DUMBWAITER

SNO. TS1325/14/26

TS. 1325

NIPPON ELEVATOR IND. CO., LTD.

CUSTOMER	:	LYKES BROS. STEAMSHIP CO., INC.
SHIP NO.	:	1325
MAXIMUM CAPACITY	:	80 Kg
RATED SPEED	:	25 m/min.
CONTROL SYSTEM	:	SINGLE AUTOMATIC BUTTON CONTROL
POWER SOURCE	:	3 PHASE, AC 460 V, 60 Hz
MOTOR	:	0.4 KW, 4 POLES
HOISTWAY STROKE	:	3.196 m
STOPS	:	2 STOPS
HALL DOOR	:	SWING DOOR (MANUALLY)
INDICATION DEVICE	:	ARRIVAL & IN USE LAMP
SIGNAL DEVICE	:	INTERPHONE

	NAME	DATE
INSPECTOR	ABS. Mr. WAKU	15. Oct. 80 4. Nov. 80
INSPECTOR	OW. Mr. MEGARRY	15. Oct. 80 4. Nov. 80
INSPECTOR		- -
APPROVAL BY		- -

TEST ITEM

1. Insulation test
2. Load test
3. Brake test
4. Test of the normal operation

1) Insulation test (M / D.C. 500 V) 15. Oct. 80

1	Motor circuit	100 MΩ	
2	Control circuit	" "	
3	Signal Lamp circuit	" "	
4	DC100 Black Circuit	" MΩ	

2) Load test 15. Oct. 80

Load in cage		Motor current	Motor circuit voltage	Cage speed	Level
0 %	U P	0.8 (A)	440 (V)	23 (m/min)	+25 (mm)
	DOWN	1.05	↑	23	+23
50 %	U P	0.85		23.5	+4
	DOWN	1.05		23.5	+10
100 %	U P	1.05		23.5	-10
	DOWN	0.9		24	+3
120 %	U P	1.2	↓	23.5	-20
	DOWN	0.87	440	24	+4

3) Brake test 15. Oct. 80

Check at the load test. (Level) OK

4) Test of the normal operation 4. Nov. 80

1. The operation of every button. (OK) NO
2. The electric car position lamp. (OK) NO
3. The buzzer button. (OK) NO
4. The door switch. (OK) NO

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TC1325

TEST RECORD FOR ENGINE ROOM CRANE

			EMPTY	SAFETY WORKING LOAD	TEST (OVER) LOAD
WORKING LOAD (METRIC TON)			0	7.0	8.75
RAISING		SPEED (~~M/MIN.~~) Sec./3 m	-	17"	17.3"
		AMPERE OF MOTOR (A)	-	21.5	27.5
	ACTION OF LIMIT SWITCH	HOIST UP/LUFF DOWN	OK	-	-
LOWERING		SPEED (~~M/MIN.~~) Sec./3 m	-	16.8"	16.6"
		AMPERE OF MOTOR (A)	-	17.0	19.5
	ACTION OF LIMIT SWITCH	OVER LOWERING Remain wire on drum	OK 7 turn	-	-
SLEWING	MAX. RADIUS	SPEED (~~(R.P.M.)~~) Sec./1 turn of pinion gear	-	R. 14.2" / L 14.0"	R. 14.0" / L 14.0"
		AMPERE OF MOTOR (A)	-	5.4 / 5.0	5.5 / 5.5
	MIN. RADIUS	SPEED (~~(R.P.M.)~~) Sec./1 turn of pinion gear	-	13.2" / 14"	14" / 14"
		AMPERE OF MOTOR (A)	-	4.7 / 5	4.8 / 5
	ACTION OF LIMIT SWITCH	SLEWING RIGHT/LEFT	OK	-	-
LUFFING UP		TIME (SEC.) Limit To Limit	-	41.5"	41.7"
		AMPERE OF MOTOR (A)	-	24	27
	ACTION OF LIMIT SWITCH	LUFF. UP	OK	-	-
LUFFING DOWN		TIME (SEC.) Limit To Limit	-	40.6"	41.7"
		AMPERE OF MOTOR (A)	-	16.5	17
	ACTION OF LIMIT SWITCH	LUFF. DOWN Remain wire on drum	OK 5 turn	-	-

BRAKE TEST : OK

EMERGENCY STOP : OK

Witnessed by ABS MR. WAKU
OW MR SUTTON
MR HOLPID
HES GA. KATSUURA

Test Date : 3. Oct. '86 & 6. Oct. '86

(10/-)

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TC1325

TEST RECORD FOR BOATSWAIN'S STORE CRANE

			EMPTY	SAFETY WORKING LOAD	TEST (OVER) LOAD
WORKING LOAD (METRIC TON)			0	1.6	2.0
RAISING		SPEED (~~M/MIN.~~) Sec/2 m	-	10.6"	11.2"
		AMPERE OF MOTOR (A)	-	7	7.7
	ACTION OF LIMIT SWITCH	HOIST UP/LUFF DOWN	OK	-	-
LOWERING		SPEED (~~M/MIN.~~) Sec/2 m	-	10.6"	10.8"
		AMPERE OF MOTOR (A)	-	7	6.2
	ACTION OF LIMIT SWITCH	OVER LOWERING Remain wire on winch drum	OK 7 turn	-	-
SLEWING	MAX. RADIUS	SPEED (~~(R.P.M.)~~) Sec/1 turn of pinion gear	-	R. 17.2" / L 17.2"	R. 17.2 / L 17.2
		AMPERE OF MOTOR (A)	-	4 / 4	3.7 / 3.7
	MIN. RADIUS	SPEED (~~(R.P.M.)~~) Sec/1 turn of pinion gear	-	17.2" / 17.2"	17.2" / 17.2
		AMPERE OF MOTOR (A)	-	4.5 / 4.5	3.8 / 3.7
	ACTION OF LIMIT SWITCH	SLEWING RIGHT/LEFT	OK	-	-
LUFFING UP		TIME (SEC.) Limit To Limit	-	37.9	37.5
		AMPERE OF MOTOR (A)	-	5	5.1
	ACTION OF LIMIT SWITCH	LUFF. UP	OK	-	-
LUFFING DOWN		TIME (SEC.) Limit To Limit	-	36.2	36.2
		AMPERE OF MOTOR (A)	-	4.5	4.5
	ACTION OF LIMIT SWITCH	LUFF. DOWN	OK	-	-
Override Switch (Remaining wire on drum)			OK / 7 turn	—	—

BRAKE TEST : OK

EMERGENCY STOP : OK

Witnessed by ABS MR WAKU
OW. MR SUTTON
USCG MR MEINTS
HES GA. KATSUURA

Test Date : 27. Sep. '86 & 29. Sep '86

(9/2)

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	OCT/11 1985	LYKES LETTER SNT-134-85						
A	JAN/6 1986	TAM/142						

FINISHED PLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER
SHIP'S NO. NO.1325
SHIP'S NAME TILLIE LYKES

OUTFITTING DESIGN SECTION
SEC. CHIEF

諸室名称札、鍵札配置
ARR. OF NAME & KEY PLATES

JOB NO. TS1323/24/25
JOBCLASSIF. NO. D.11
SCALE
LYKES REF. NO. 120401
MITSUI DRAWING NO. 4111040

(30 SHEETS WITH COVER)

PLAN RECORD

REV. NO.	DATE	DESCRIPTION	CHECKED BY.
	5. OCT. 1986	PREPARED FOR S. NO. 1323 AS FINISHED PLAN, MADE APPLICABLE TO S. NO. 1324 AND S. NO. 1325.	[illegible]

GENERAL NOTE

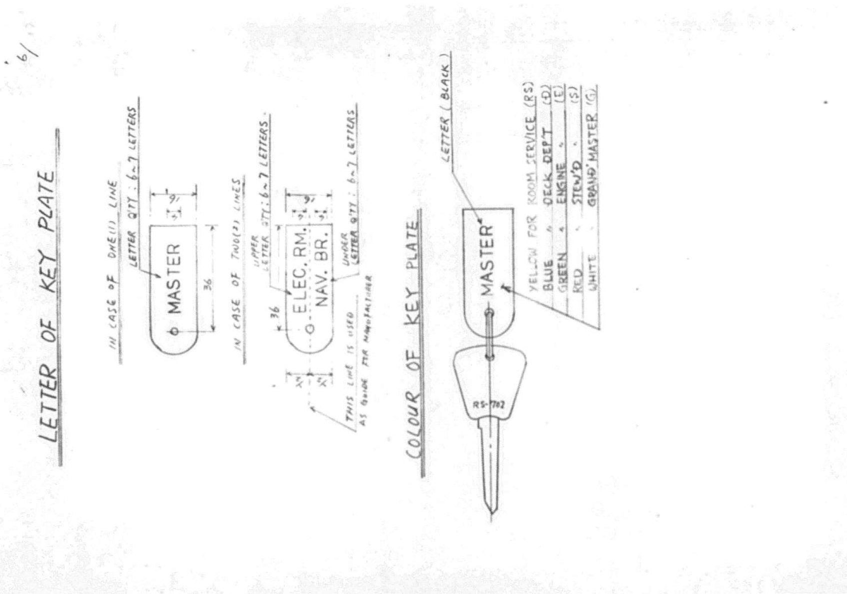
1. NAME PLATE FOR HOLLOW DOOR SHALL BE FITTED ON THE DOOR FRAME ABOVE THE DOOR.
2. NAME PLATE FOR STEEL DOOR SHALL BE FITTED ON THE WALL ABOVE THE DOOR.
3. WHEN KEYS ARE DELIVERED TO SHIP AT DELIVERY, THE KEY TAG TO BE ATTACHED TO KEY AS FOLLWINGS.

ONE KEY + ONE KEY TAG
TWO KEY + ONE KEY TAG.

DWG. NO.

REFERENCE

NO.	REF. NO	DWG NO	DWG NAME
1	330001 ~ 330008	4111001 ~ 4111008	ACCOMMODATION PLAN (1/8) ~ (8/8)
2	090101	1100081	GENERAL ARRANGEMENT
3	160204	4120210	ARR. OF SMALL HATCH & DOOR



DECK	NAME PLATE LETTER	Q'TY	KEY PLATE LETTER	COLOR	Q'TY	NUMBER OF PLACE
S.OFFR. DECK	STAIRWAY	7	——	—	—	723, 628, 522, 428, 322, 211, 107
	RADIO OFFICER (S04)	1	RADIO OFFR. S04	RS	2	724
	PIPE & CABLE TRUNK	7	P.& E. TRUNK	E	2	728, 629, 526, 432, 327, 206, 105
	CHIEF MATE (S03)	1	CH. MATE S03	RS	2	729
	ELEVATOR	7	——	—	—	S. OFFR. DK. PASS. DK. BOAT DK. CREW DK. SAL. DK. UPP. DK. 2ND. DK.
	ELEVATOR	3	——	—	—	ENGINE RM. (3RD. DK.～PART. DK.)
	——	——	R/RM. - R/OFFR.	D	2	726
PASSENGER DECK	PASSENGERS (P3)	1	PASSGR. P3	RS	2	602
	DECK CHAIRS	1	DK. CHR. PASS. DK.	S	2	607
	PASSENGERS (P1)	1	PASSGR. P1	RS	2	608
	PASSENGERS (P2)	1	PASSGR. P2	RS	2	611
	——	——	PASSGR. P1-P3	S	2	605
	——	——	PASSGR. P2-P4	S	2	614
	SPARE BULB LKR.	1	SP. BULB LKR.	E	2	620
	PASSENGERS (P6)	1	PASSGR. P6	RS	2	621
	PASSENGERS LOUNGE	2	PASSGR. LOUNGE	RS	2	625, 626
	PASSENGERS (P5)	1	PASSGR. P5	RS	2	630
	〃 (P4)	1	PASSGR. P4	RS	2	616
	PASS. LOUNGE CLOSET	1	——	—	—	635
	PASS. LOUNGE SAME EQUIP. CLOSET	1	——	—	—	627

DECK	NAME PLATE LETTER	Q'TY	KEY PLATE LETTER	COLOR	Q'TY	NUMBER OF PLACE
NAV. BRIDGE DECK	WHEEL HOUSE	1+※2	——	—	—	※801, ※802, 803
	——	——	WH. HSE. & ENTRY	D	9	801. 802. 803. 701. 715. 601. 619. 501. 513. 401. 418. 301. 315
	SERVICE LOCKER (B)	2	——	—	—	804. 216
	W. C.	3	——	—	—	805. 308. 218
	ELECTRIC ROOM	1	ELEC. RM. NAV. BR.	E	2	806
	BATTERY ROOM	——	——	—	—	SEE PAGE 14
	——	——	SERVICE LKR. (A) & (B)	RS	2	804, 216, 719, 615, 505, 427, 321
S.OFFR. DECK	——		MASTER'S CLOSET	D	2	707
	——		CH. ENGR. CLOSET	E	2	714
	ENTRANCE	※14	——	—	—	701. 601. 501. 401. 715. 619. 513. 418
	MASTER (S01)	1	MASTER S01	RS	2	702
	MASTER'S OFFICE	1	——	—	—	706
	COMPUTER ROOM	1	COMPUTE. RM.	D	2	708
	CHIEF ENGINEER (S02)	1	CH. ENGR. S02	RS	2	710
	CHIEF ENGINEER'S OFFICE	1	——	—	—	709
	1ST ASST. ENGINEER (S06)	1	1ST. ASST. ENGR. S06	RS	2	716
	SERVICE LKR. (A)	5	——	—	—	719, 615, 505, 427, 321
	BAGGAGE LKR.	5	BAGGAGE LKR.	S	2	720, 606, 633, 521, 423
	RADIO ROOM	1	RADIO RM.	D	2	721
	LAUNDRY	3	LAUNDRY	S	2	722, 624, 419

DECK	NAME PLATE LETTER	Q'TY	KEY PLATE LETTER	COLOR	Q'TY	NUMBER OF PLACE
CREW DECK	STEWARD (C10)	1	STEWD. C10	S	2	424
	BOSUN (C9)	1	BOSUN C9	D	2	429
	OS № 2 (C11)	1	OS № 2 C11	D	2	433
	OS № 1 (C13)	1	OS № 1 C13	D	2	435
	CLOSET	1	CLOSET CREW DK	S	2	437
SALOON DECK	STEWARD OFFICE	2	STWD. OFFICE	S	2	302, 303
	CHIEF COOK (S3)	1	CH. COOK S3	S	2	304
	SPARE (S1)	1	SPARE S1	S	2	306
	CREW RECREATION RM.	2	CREW REC. RM.	S	2	309, 310
	STEWARD UTILITY (S2)	1	STWD. UTIL. S2	S	2	311
	HOSPITAL	1+*1	HOSP.	D	2	313 *(M/B 1)
	OFFR. & PASS. DINING RM.	1	—	—	—	316
	—	—	OFF. & PASS. SALOON	S	2	316, 317, 318
	DUTY MESS RM.	1	—	—	—	317
	GALLEY	3	GALLEY	S	2	320, 323, 324
	CREW MESS RM.	1	CREW MESS RM.	S	2	328
	CREW MESS RM. GAMES	1	CREW GAMES	S	2	326

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DECK	NAME PLATE LETTER	Q'TY	KEY PLATE LETTER	COLOR	Q'TY	NUMBER OF PLACE
SECOND DECK	—	—	LKR. 2ND. DK.	S	2	108
	DIRTY LINEN LOCKER	1	—	—	—	109
	CLEAN LINEN LOCKER	1	—	—	—	110
	SHIP'S LAUNDRY	1	—	—	—	111
	—	—	LDRY. & LIN. LKRS.	S	2	109, 110, 111
	FORWARD MACHINERY RM.	1	—	—	—	(M/B 1)
	ELEV. MACH. RM.	1	EL. MACH. ACC. SP.	E	2	104
	AIR COND. UNIT ROOM	1		—	—	001
	DOOR TO F. SIDEPORT	1	DOOR TO F. SIDEPORT	D	2	112
	—	—	FWD. MACH. A.C. & RFR.	E	2	(M/B 1), 103, 001
ENG. RM.	SHAFT TUNNEL	1	—	—	—	(EM 1)
	ENGINE CONTROL RM.	2	ENG. CONT. RM.	E	2	(EM 2) (EM 3)
	ENGINE ROOM	5	ENG. RM.	E	2	(EM 4) (EM 7) (EM 8) (EM 5) (M/C 10)
	ELECTRIC WORK SHOP	1	ELEC. WK. SHOP	E	2	(EM 6)
	ENG. CONFERENCE RM.	1+*1	ENG. CONF. RM	E	2	(EM 9) *(M/C 8)
	FIRE EQUIPMENT RM.	1	—	—	—	(EM 10)
	EM. GENERATOR RM.	*1+2	EM. GEN. RM.	E	2	(EM 11) (EM 13) *(M/C 14)
	LAVATORY	1	—	—	—	(EM 12)
	ESCAPE TRUNK	1	—	—	—	(EMT 1)
	PURIFIER ROOM	2	—	—	—	(ES 1) (ES 2)

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DECK	NAME PLATE LETTER	Q'TY	KEY PLATE LETTER	COLOR	Q'TY	NUMBER OF PLACE
BOAT DECK	2ND MATE (B1)	1	2ND MATE B1	RS	2	502
	OFFICER RECREATION ROOM	2	OFFR. REC. RM.	↓	2	506, 507
	PILOT (B2)	1	PILOT B2	↓	2	508
	2ND ASST. ENGINEER (B4)	1	2ND ASST. ENGR. B4	↓	2	510
	CADET (B10)	1	CADET B10	↓	2	514
	〃 (B8)	1	CADET B8	↓	2	516
	3RD ASST. ENGINEER (B6)	1	3RD ASST. ENGR B6	↓	2	518
	3RD MATE (B5)	1	3RD MATE B5	↓	2	523
	NIGHT RELIEF ENGINEER (B7)	1	NIGHT R/ENG. B7	↓	2	527
	〃 〃 MATE (B9)	1	NIGHT R/MATE B9	RS	2	529
	CLOSET	1	CLOSET BOAT DK.	S	2	531
CREW DECK	AB № 1 (C7)	1	AB № 1 C7	D	2	402
	〃 〃 2 (C5)	1	AB № 2 C5	D	2	404
	〃 〃 3 (C3)	1	AB № 3 C3	D	2	406
	SPARE (C1)	1	SPARE C1	D	2	408
	〃 (C2)	1	SPARE C2	D	2	410
	〃 (C4)	1	SPARE C4	D	2	412
	WIPER № 2 (C6)	1	WIPER 2 C6	E	2	414
	〃 № 1 (C8)	1	WIPER 1 C8	E	2	416
	ELECTRICIAN (C12)	1	ELECT. C12	E	2	420

9

DECK	NAME PLATE LETTER	Q'TY	KEY PLATE LETTER	COLOR	Q'TY	NUMBER OF PLACE
UPPER DECK	GARBAGE ROOM	1	GARBAGE RM.	S	2	201
	DECK CHANGE ROOM	1	DK. CHG. RM.	D	2	202
	DECK OFFICE	1	DECK OFFICE	D	2	203
	LOCKER	2	—	—	—	204 108
	PROVISION HANDLING SPACE	1+*1	PROV. HAND. SP.	S	2	205 *(M/B 2)
	DRY PROVISION STORES	1	DRY. PROV. STORES	S	2	207
	BONDED STORES	1	BONDED STORES	G	2	208
	GYMNASIUM	1	GYM.	D	2	209
	SWIMMING POOL	1	SWIM. POOL	D	2	212
	HOBBY ROOM	1	HOBBY RM.	D	2	213
	SLOP CHEST	1	SLOP CHEST	G	2	214
	ARCHIVES ROOM	1	ARCHIVE RM.	E	2	217
	BALLAST CONT. RM. & CARGO OFFICE	1	BALLAST CARGO RM.	D	2	219
	ENGINE OFFICE	1	ENGINE OFFICE	E	2	220
	—	—	LKR. UPP. DK.	S	2	204
	FROZEN	1	FROZEN	S	2	230
	CHILLED	1	CHILLED	S	2	231
SECOND DECK	FORWARD SW. BRD RM.	1	FWD. SWBD. RM.	E	2	101
	FIRE STATION	1	FIRE CONT. STATION	D	2	102
	PROV. REF. MACHINE RM.	1	—	—	—	103
	ELEV. MACHINE RM.	1	—	—	—	104
	CO_2 BOTTLE RM.	1	CO_2 BTL. RM.	D	2	106

11

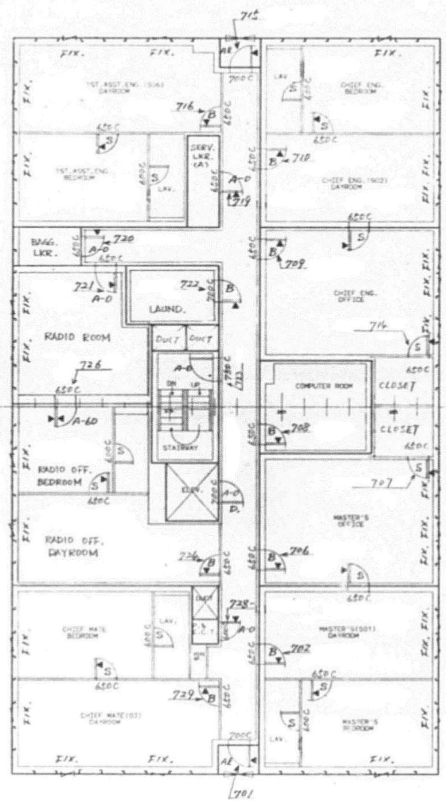
492

DECK	NAME PLATE LETTER	Q'TY	KEY PLATE LETTER	COLOR	Q'TY	NUMBER OF PLACE
(UNDER DK. PASSAGE)	PASSAGEWAY	4	—	—	—	W/T 3, W/T 4, W/T 5, W/T 6
(〃)	STEERING GEAR RM.	2	—	—	—	W/T 7, W/T 8
(UPP. DK.)	CHAIN LOCKER	2	—	—	—	W/B 1, W/A 2
(〃)	CO_2 BOTTLE RECESS	*1	CO_2 BTL. RECESS	D	2	*W/A 2
(〃)	WATCH MAN'S STATION	*1	WATCHMN STN.	D	2	*W/B 1
(〃)	OIL SKIN LOCKER	*1	OIL SKIN LKR.	D	2	*W/A 3
(〃)	SUEZ CREW/CONF. RM.	*1	SUEZ/ CONF. RM.	D	2	*W/B 6 , 221
(〃)	DECK STORE	*1	DECK STORE	D	2	*W/B 7
(UPP. DK / FCLE DK)	BOSUN'S STORE	2	BOSUNS STORE	D	2	W/C 2, W/W 1
(NAV. BR.)	BATTERY ROOM	*1	BATTERY RM.	E	2	*W/C 3
(〃)	DECK CHAIRS	*1	DK. CHAIR NAV. BR.	S	2	*W/C 13
(UPP. DK.)	Nº 5 HOLD	*2	NO. 5 HOLD	D	2	*W/C 4, *W/C 5
(〃)	ESCAPE TRUNK	*1	ESCAPE TRUNK	E	2	*W/C 6
(〃)	PAINT ROOM	*1	PAINT RM.	D	2	*W/C 7
(〃)	STEERING GEAR RM.	1+*1	STEER. GEAR RM.	D	2	*W/C 11, W/W 2
(5.2M LEVEL)	ENGINE ROOM	1+*1	ENGINE RM.	E	2	*W/C 12, W/W 3
(UPP. DK)	FIRE EQUIP. RM. & ENG. RM.	*1	FIRE EQ. & ENG. RM.	E	2	*W/C 9

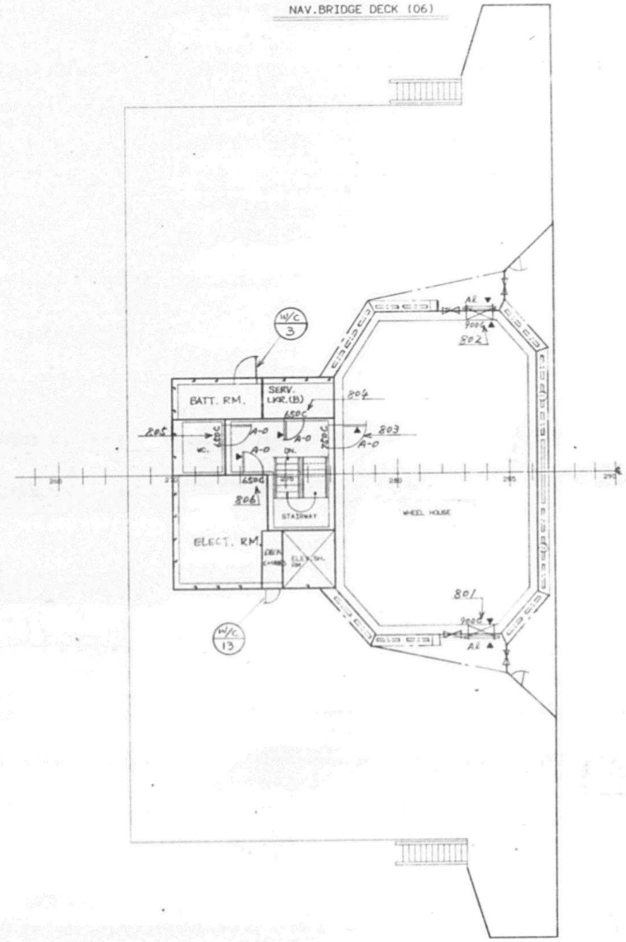
DECK	NAME PLATE LETTER	Q'TY	KEY PLATE LETTER	COLOR	Q'TY	NUMBER OF PLACE
ENG. RM.	ENGINE WORK SHOP	1	ENG. WORK SHOP	E	2	ES 3
ENG. RM.	W. C.	1	—	—	—	ES 5
ENG. RM.	ENG. CHANGE RM.	1	ENG. CHG. RM.	E	2	ES 6
ENG. RM.	ELEVATOR MACHINE RM.	1	EL. MACH. ENG. SP.	E	2	ES 7
ENG. RM.	ENGINE STORES	2	ENG. STORES	E	2	ES 8, ES 9
ENG. RM.	ELECTRIC STORES	1	ELECT. STORES	E	2	ES 10
UPP. DK.	—	—	Nº 1 HOLD	D	2	M/A 1
UPP. DK.	—	—	Nº 2 HOLD	D	2	M/A 2
UPP. DK.	—	—	Nº 3 HOLD	D	2	M/A 3
UPP. DK.	—	—	Nº 4 HOLD	D	2	M/A 4
UPP. DK.	—	—	Nº 6 HOLD	D	2	M/A 5
(FCLE DK)	BOSUN'S STORE	1	—	—	—	M/W 1
(UPP. DK. AFT)	STEERING GEAR RM.	1	—	—	—	M/W 2
(5.2M LEVEL)	ENGINE ROOM	1	—	—	—	M/W 3

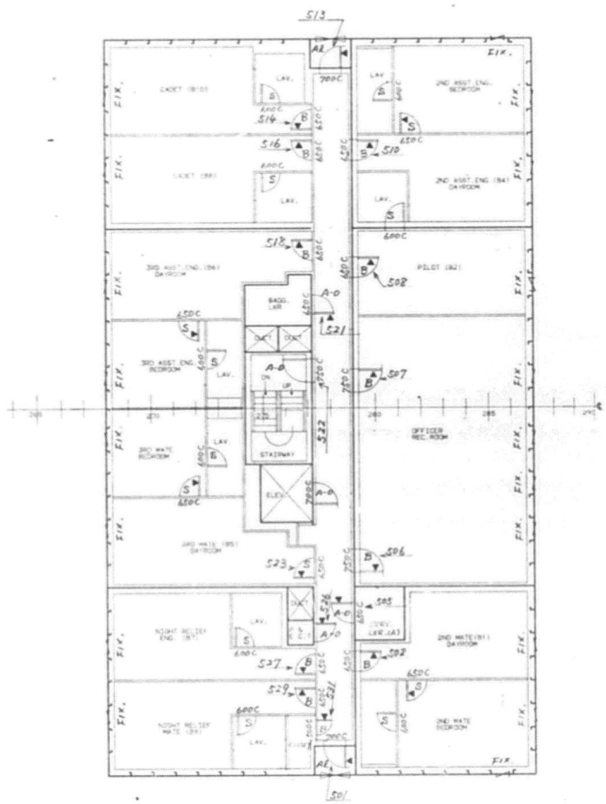
DECK	NAME PLATE LETTER	Q'TY	KEY PLATE LETTER	COLOR	Q'TY	NUMBER OF PLACE
	—	—	GRAND MASTER	G	2	GRAND MASTER KEY
	—	—	SUB. DK. MASTER	D	2	SUB MASTER KEY (DECK)
	—	—	SUB. ENG. MASTER	E	2	〃 (ENGINE)
	—	—	SUB. STWD. MASTER	S	2	〃 (STEWD)
	—	—	SUB STWD. RM. SERV.	RS	2	〃 (RM. SERVICE)

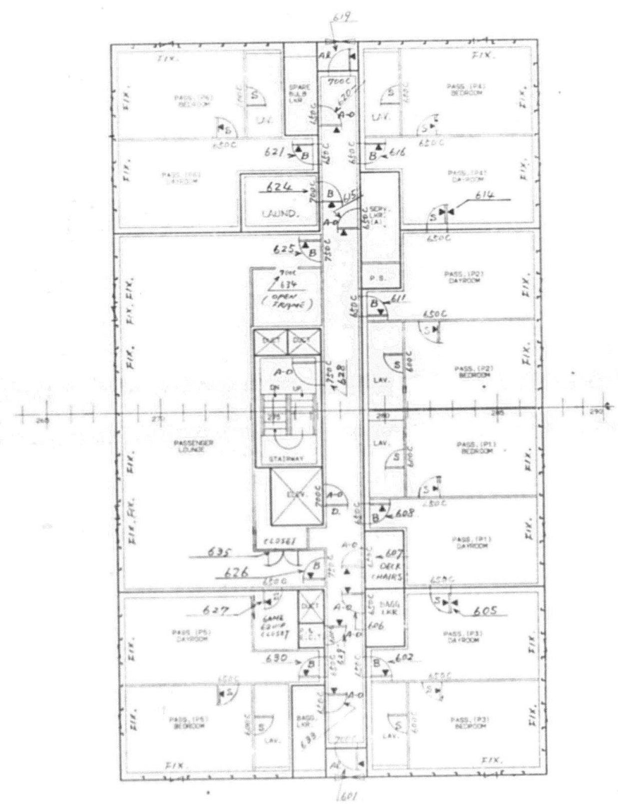
SR.OFFICER'S DECK (05)



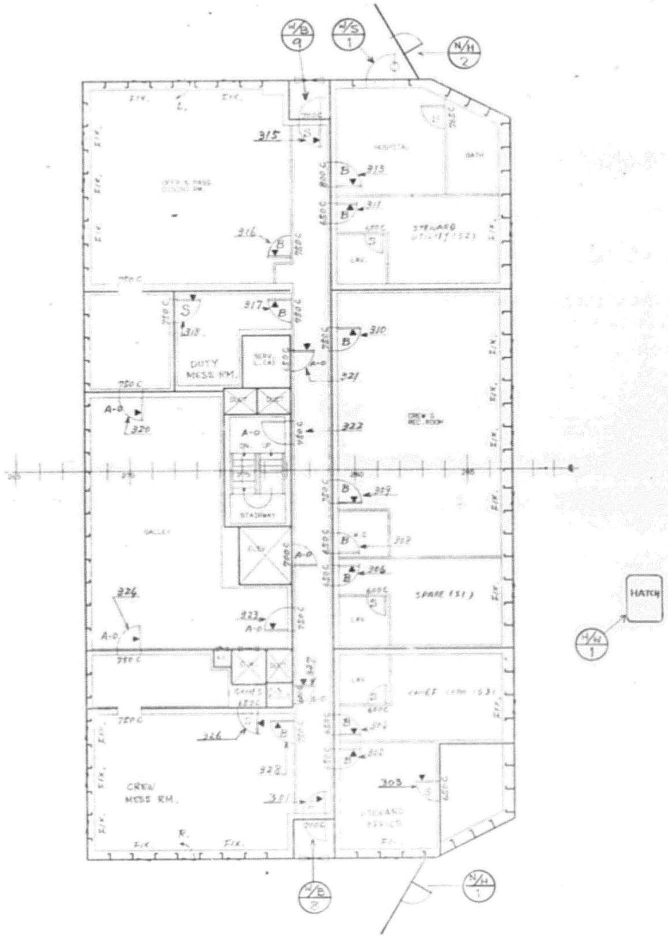
NAV.BRIDGE DECK (06)



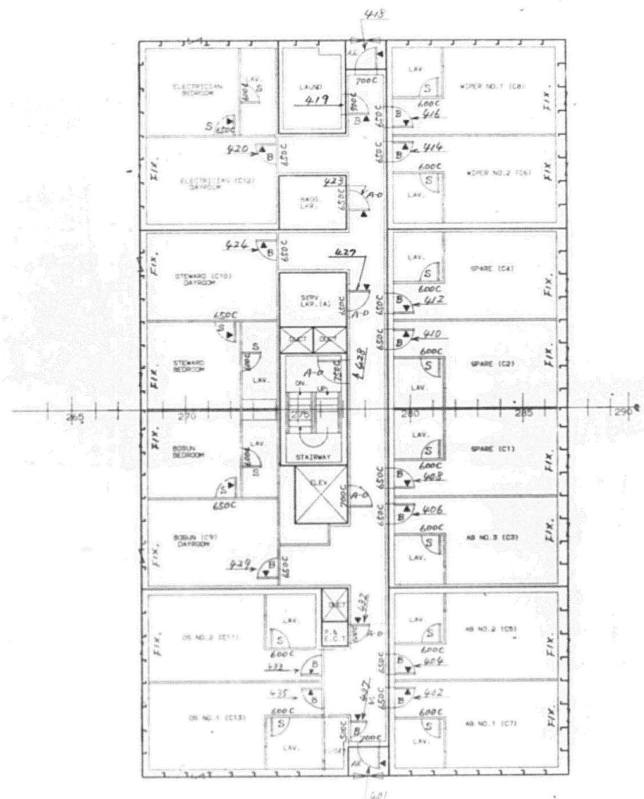

BOAT DECK (03)


PASSENGER DECK (04)

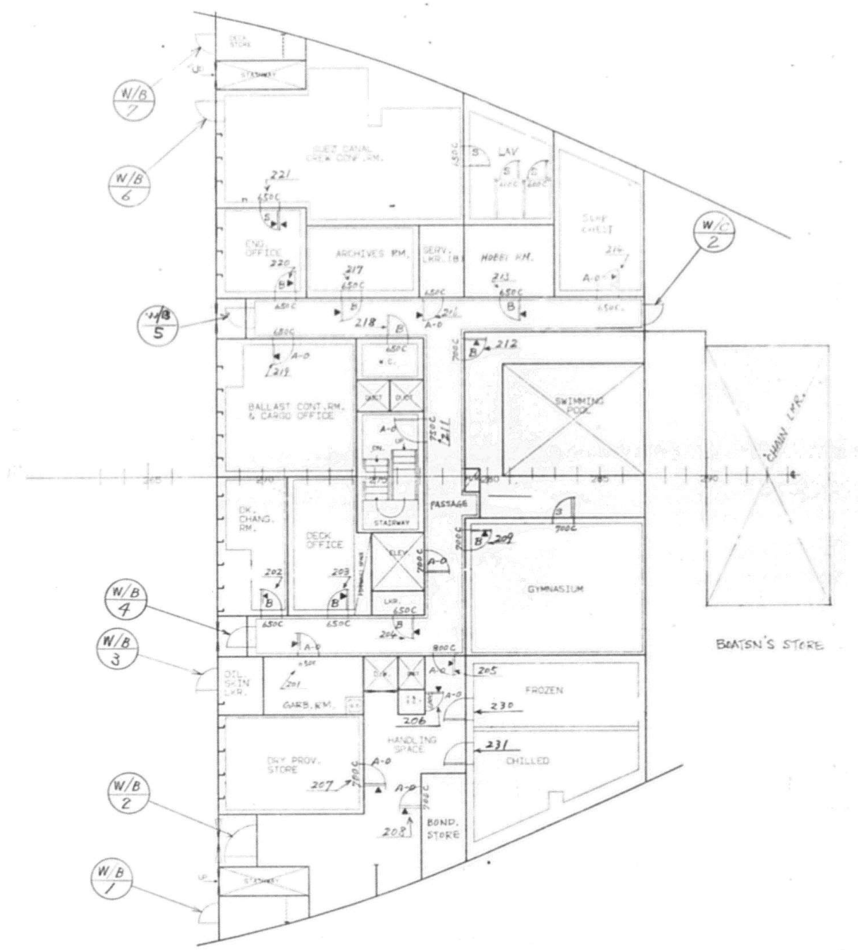
SALOON DECK (01)



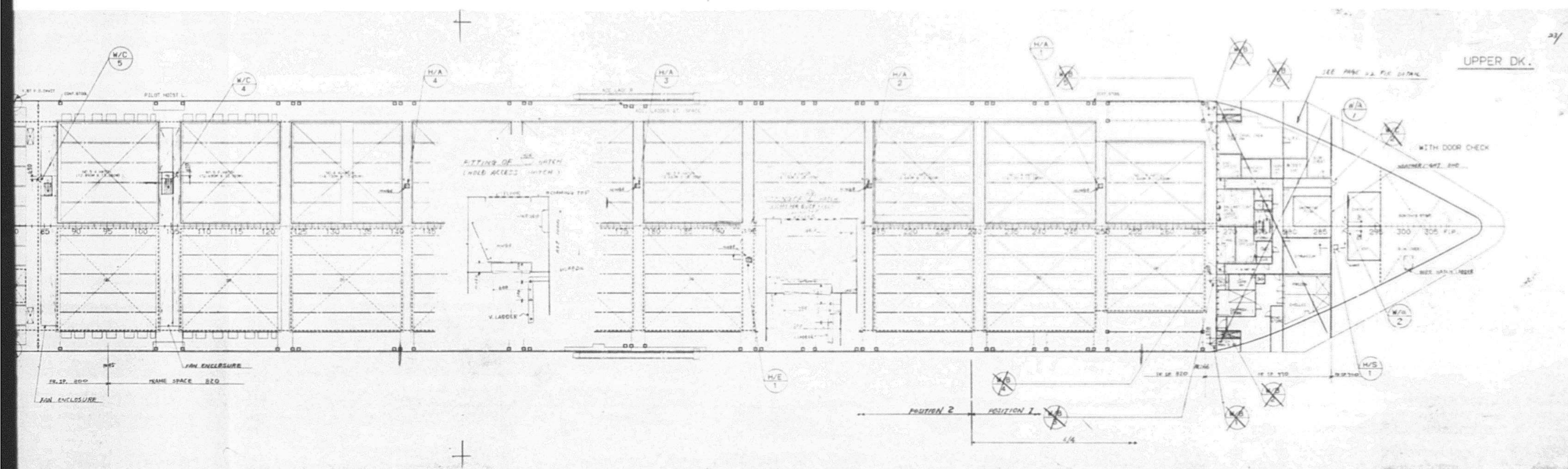
CREW DECK (02)



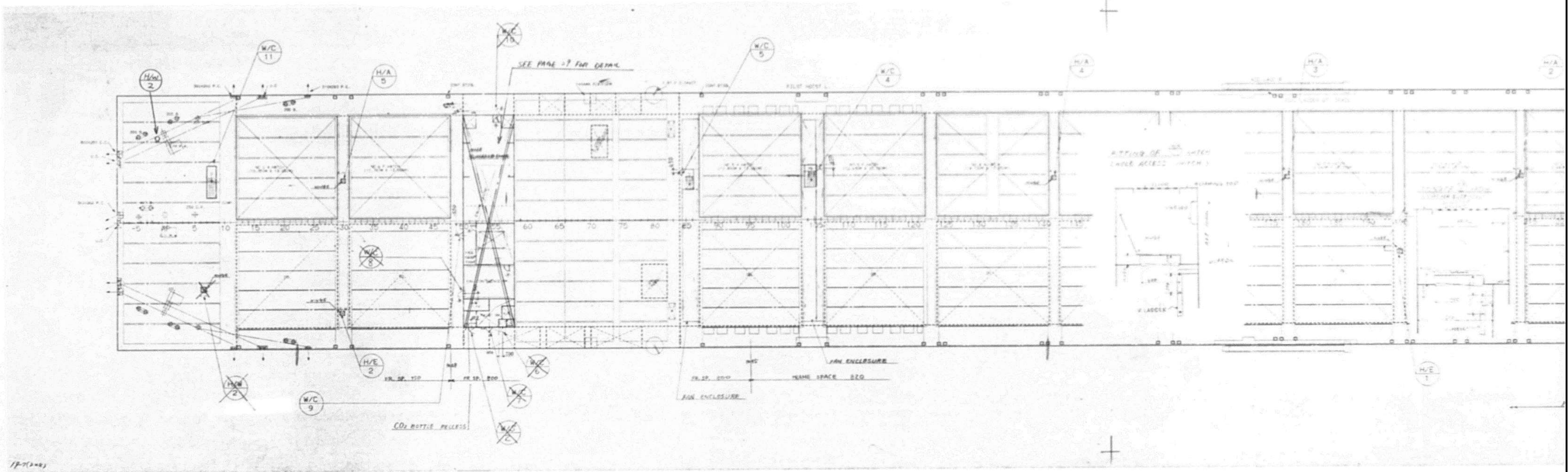
UPPER DECK



SUEZ CANAL CREW CONF. RM.
LAV
ENG. OFFICE
ARCHIVES RM.
SERV. LKR.
HOBBY RM.
BALLAST CONT. RM. & CARGO OFFICE
SWIMMING POOL
CHAIN LKR.
DK. CHANG. RM.
DECK OFFICE
STAIRWAY
PASSAGE
GYMNASIUM
BOATSN'S STORE
GARB. RM.
FROZEN
CHILLED
HANDLING SPACE
DRY PROV. STORE
BOND. STORE


UPPER DK.
WITH DOOR CHECK
FAN ENCLOSURE
FRAME SPACE 820
V. LADDER
POSITION 2
POSITION 1

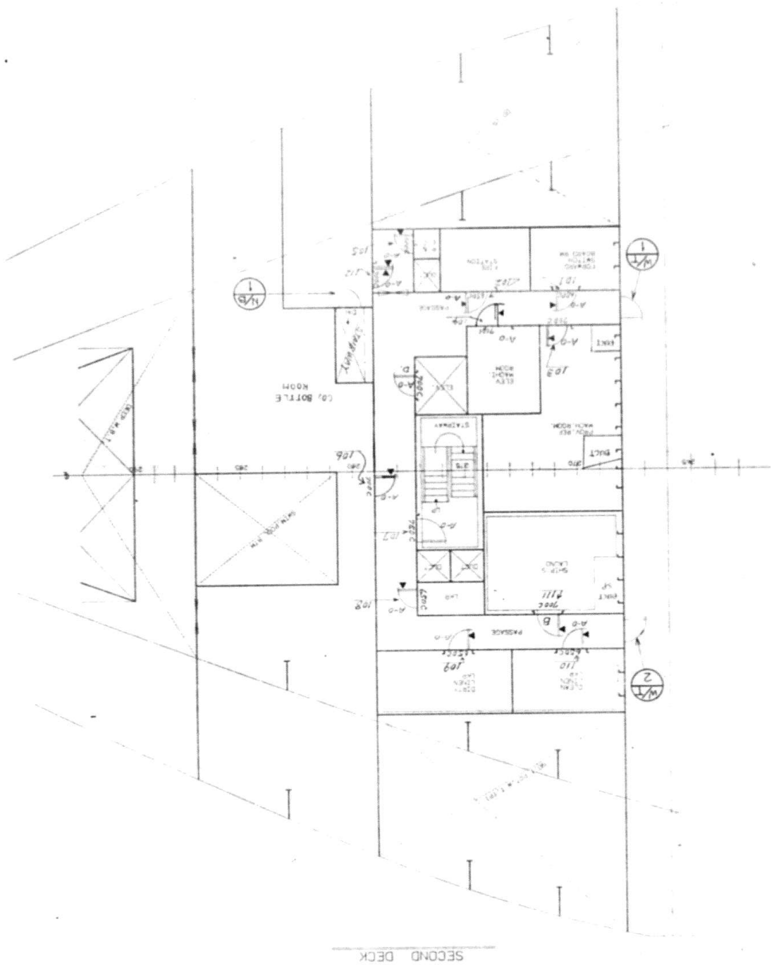
498

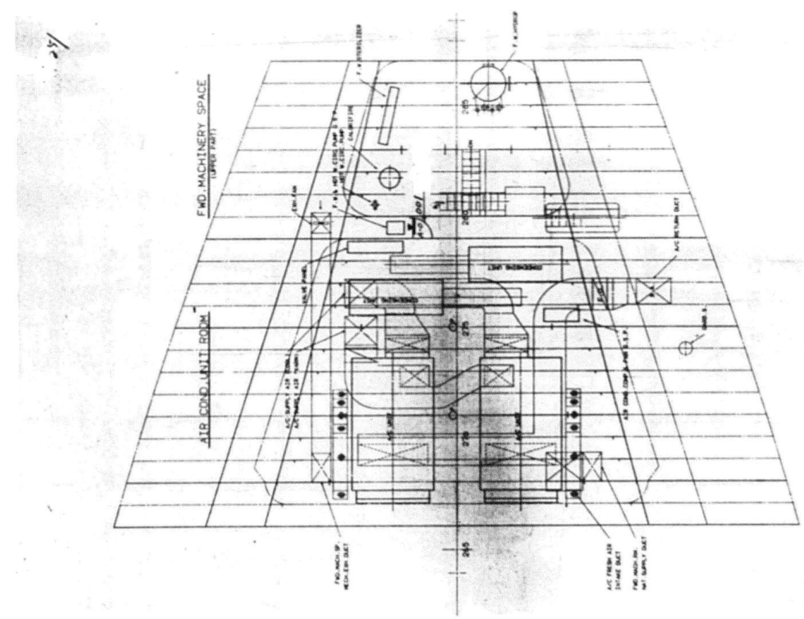


W/C 11
H/A 2
H/A 5
W/C 5
W/C 4
H/A 4
H/A 3
H/A 2
H/E 2
H/E 1
W/C 9
FAN ENCLOSURE
FRAME SPACE 220
CO2 BOTTLE RELEASE

2/2

499





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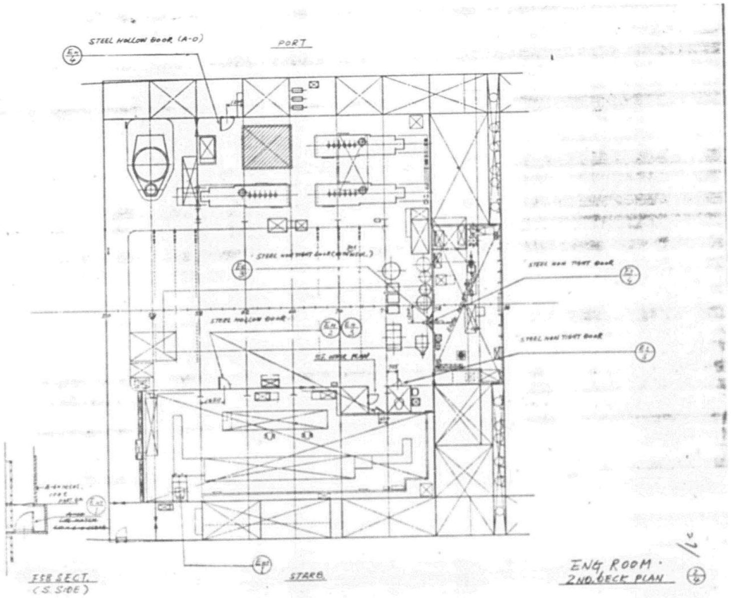
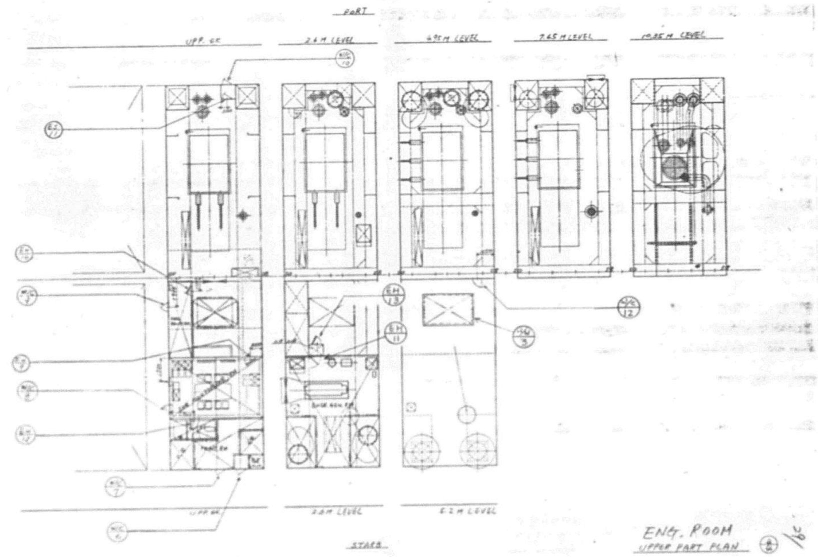
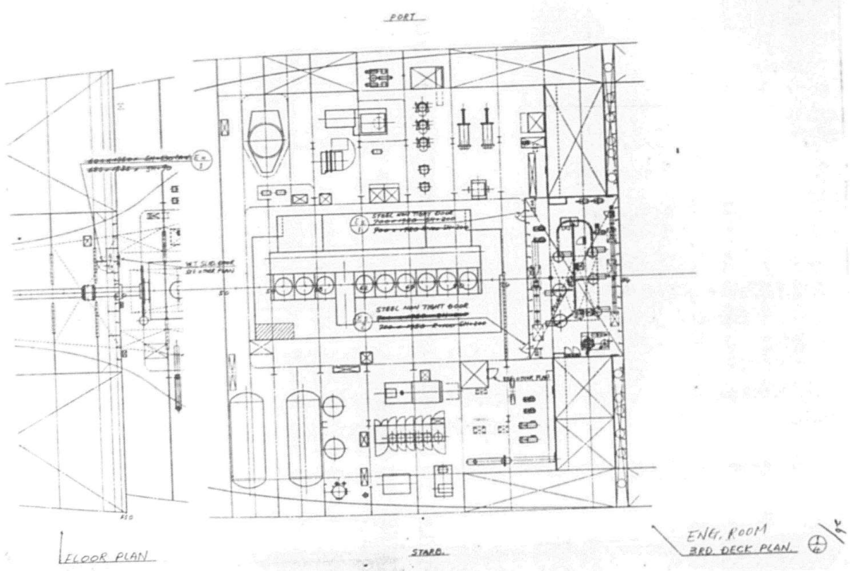
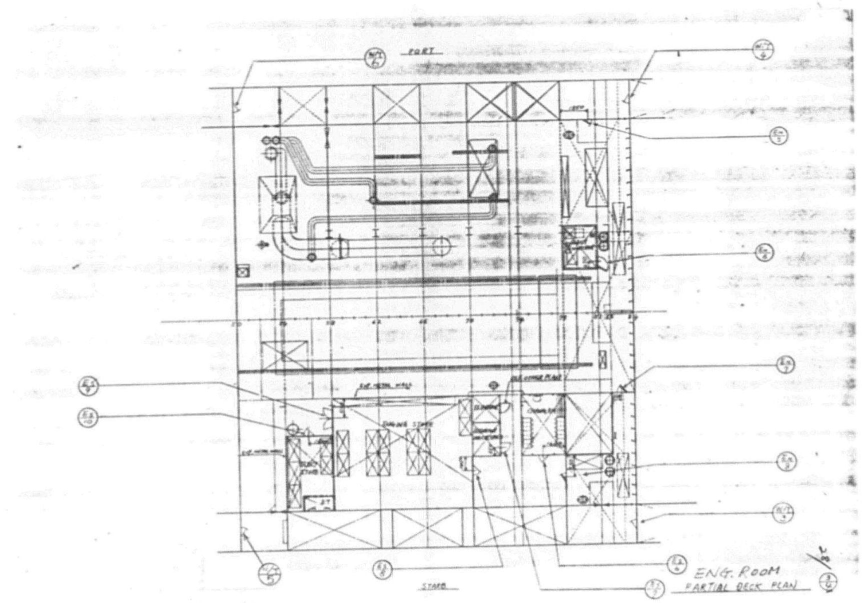
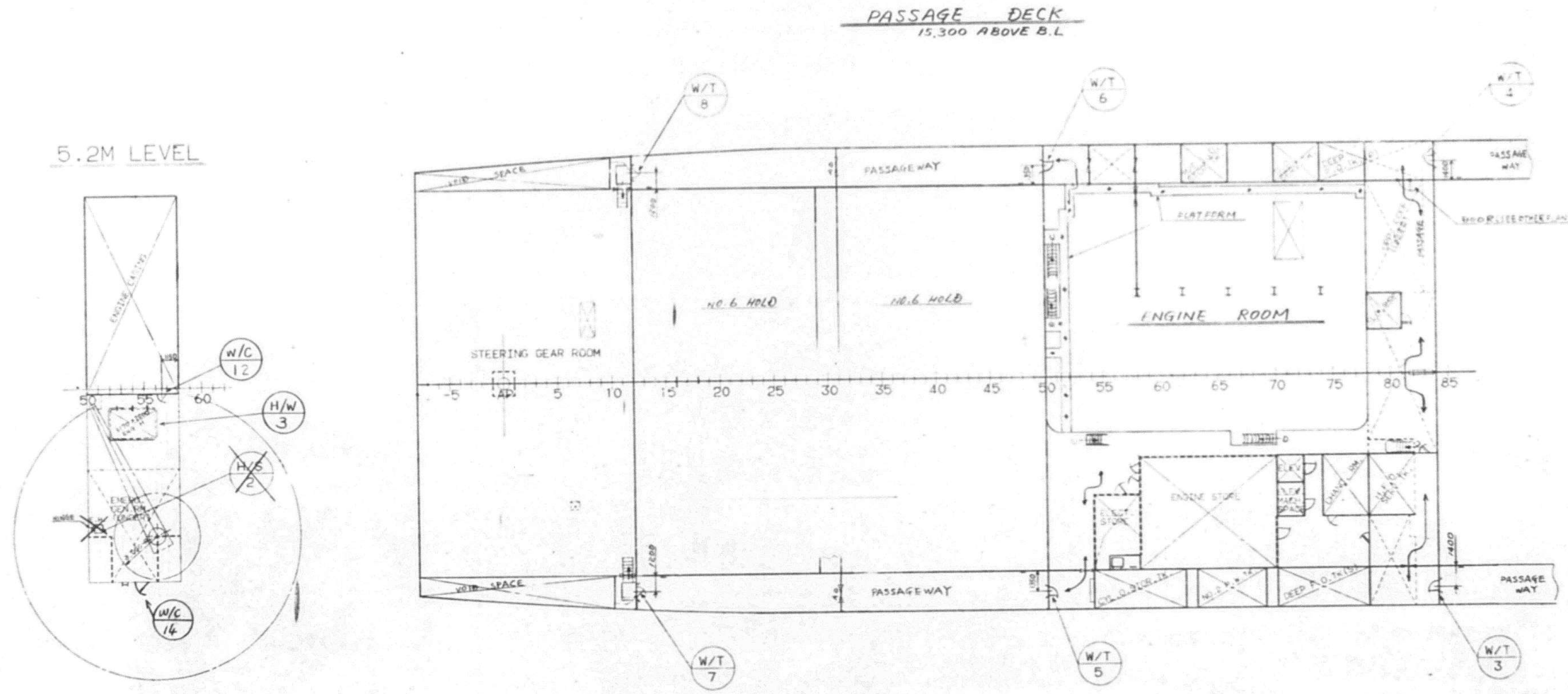

PORT
STARB.
F38 SECT. (S. SIDE)
ENG. ROOM 2ND DECK PLAN


PORT
STARB.
ENG. ROOM UPPER PART PLAN


PORT
STARB.
FLOOR PLAN
ENG. ROOM 3RD DECK PLAN


PORT
STARB.
ENG. ROOM PARTIAL DECK PLAN

30/30



PASSAGE DECK
15,300 ABOVE B.L
5.2M LEVEL
PASSAGEWAY
PLATFORM
NO.6 HOLD
ENGINE ROOM
STEERING GEAR ROOM
ENGINE STORE
VOID SPACE
PASSAGE WAY
W/T 8
W/T 6
W/T 4
W/T 7
W/T 5
W/T 3
W/C 12
H/W 3
H/S 2
W/C 14

19-7

502

APPROVAL OF OWNER & REGULATORY BODIES

ALT.NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	26 AUG 1985	SWT-138-85						
A	18 OCT 1985	SWT-179-85						

FINISHED PLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER
OUTFITTING DESIGN SECTION

SHIP'S NO. **NO.1325** SHIP'S NAME **TILLIE LYKES**

マスターキー装置
MASTER KEY SYSTEM

DATE (TEL 2236)
JOB NO. TS1323/24/25
JOBCLASSIF.NO.
SCALE
LYKES REF. NO. 120402
MITSUI DRAWING NO. 4111042

(36 SHEETS WITH COVER)

2/

PLAN RECORD

REV. NO.	DATE	DESCRIPTION	CHECKED BY.
	5.OCT. 1986	PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325.	T. Takata

3/

GENERAL NOTE

1. ALL SERVICE LOCKER (...) SHOULD HAVE DOOR LOCK TO SAME KEY.
2. CLEAN LINEN LOCKER (110), DIRTY LINEN LOCKER (109) AND SHIP'S LAUNDRY (111) SHOULD HAVE SAME KEY.
3. DOOR (922) (624) (419) TO DECK SUNDRY SHOULD HAVE SAME KEY.
4. THREE (3) MASTER KEYS SHALL BE SUPPLIED.
5. THREE (3) SET OF KEYS SHALL BE SUPPLIED FOR EACH LOCK.
6. SLOP CHEST (216), DRY PROV. STORE (207), BONDED STORE (208) SHOULD HAVE HASP AND PAD LOCK FOR CUSTOMS' SEAL.
7. FIRE STATION (102), CO_2 ROOM (105) AND SUEZ CANAL CREW CONF. ROOM (221) SHOULD HAVE BREAK GLASS KEY BOX FOR EMERGENCY USE.

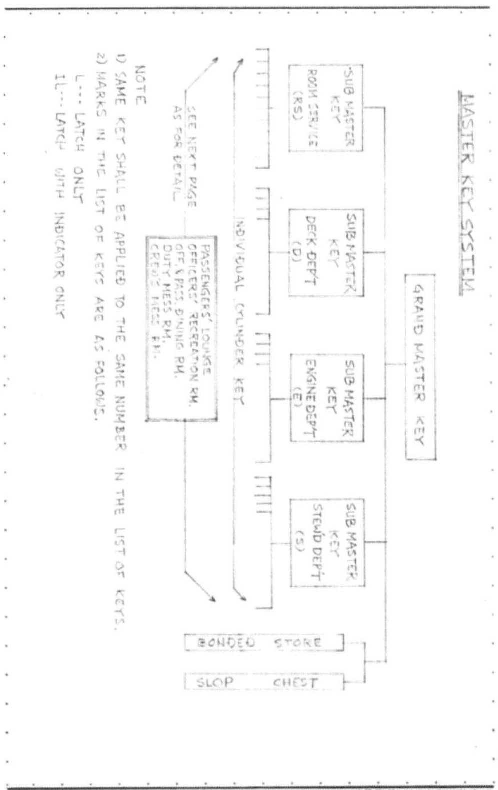
DWG.NO.

4/

REFERENCE

NO.	REF. NO	DWG NO	DWG NAME
1	160204	4120210	ARR. OF SMALL HATCH & DOOR
2	330104	4111036	ARR. OF ACCOMM. DOOR & WINDOW
3	330604	4111037	HOLLOW DOOR

503



(1-5)

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5-2

MASTER KEY SYSTEM FOR PUBLIC ROOMS (1/2)

NOTE. MARKS "O" MEAN UNLOCKABLE

PERSON	KEY No	PASSENGERS' LOUNGE (625, 626)	OFFICERS' REC. RM. (506, 507)	OFFR. & PASSENGERS' DINING ROOM (316)	DUTY MESS RM. (317, 318)	CREW'S REC. RM. (309, 310)	CREW'S MESS RM. (328)
MASTER (S01)	RS-702		O	O	DOOR NO. 317 & 318 TO BE UNLOCKED BY KEY NO. 316		
CH. ENGINEER (S02)	〃 -709		O	O			
CH. MATE (S03)	〃 -729		O	O			
1ST. ASS. ENGR. (S06)	〃 -716		O	O			
RADIO OFFICER (S04)	〃 -724		O	O			
PASSENGER (P1)	〃 -608	O		O			
〃 (P2)	〃 -611	O		O			
〃 (P3)	〃 -602	O		O			
〃 (P4)	〃 -616	O		O			
〃 (P5)	〃 -630	O		O			
〃 (P6)	〃 -621	O		O			
2ND. MATE (B1)	〃 -502		O	O			
2ND. ASS. ENGR. (B4)	〃 -510		O	O			
3RD. MATE (B5)	〃 -523		O	O			
3RD. ASS. ENGR. (B6)	〃 -518		O	O			
CADET (B8)	〃 -516		O	O			
〃 (B10)	〃 -514		O	O			
N. RELIEF ENGR. (B7)	〃 -527		O	O			
N. RELIEF MATE (B9)	〃 -529		O	O			
PILOT (B2)	〃 -508		O	O			

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5-3

MASTER KEY SYSTEM FOR PUBLIC ROOMS (2/2)

NOTE. MARKS "O" MEAN UNLOCKABLE

PERSON	KEY No	PASSENGERS' LOUNGE (625, 626)	OFFICERS' REC. RM. (506, 507)	OFFR. & PASSENGERS' DINING ROOM (316)	DUTY MESS RM. (317, 318)	CREW'S REC. RM. (309, 310)	CREW'S MESS RM. (328)
BOSUN (C9)	D-429					O	O
STEWARD (C10)	S-424					O	O
ELECTRICIAN (C12)	E-420					O	O
AB No.1 (C7)	D-402					O	O
AB No.2 (C5)	D-404					O	O
AB No.3 (C3)	D-406					O	O
OS No.1 (C13)	D-435					O	O
OS No.2 (C11)	D-433					O	O
SPARE (C1)	D-408					O	O
〃 (C2)	D-410					O	O
〃 (C4)	D-412					O	O
WIPER No.1 (C8)	E-416					O	O
〃 No.2 (C6)	E-414					O	O
CH. COOK (S3)	S-304					O	O
SPARE (S1)	S-306					O	O
STEW'D UTILITY (S2)	S-311					O	O

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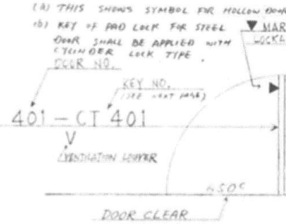
5-4

(A) ACCOMMODATION DOOR

(SYMBOL IN ACCOMM. SPACE)

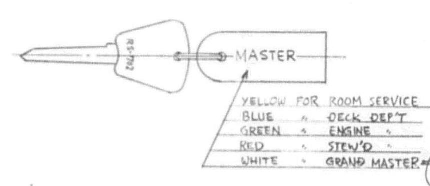
(a) THIS SHOWS SYMBOL FOR HOLLOW DOOR IN ACCOMM. SPACE.

(b) KEY OF PAD LOCK FOR STEEL DOOR SHALL BE APPLIED WITH CYLINDER LOCK TYPE.



NOTICE ! AS FOR DETAILED INDICATION OF KEY NO., REFER TO LIST OF KEYS ON PAGE 6 ~ 17.

(B) EXAMPLE OF KEY PLATE



NOTE

1. AS FOR DETAIL OF KEY PLATE, REFER TO "ARR. OF NAME AND KEY PLATE" (DWG. NO. 6111360)

5-5

) GENERAL REMARKS FOR DOOR
IN ACCOMMODATION SPACE

1. REFER TO FOLLOWING DRAWINGS

   a). ARRANGEMENT OF SMALL HATCH & STEEL DOORS (DWG. NO. 4120210)
   b). ARRANGEMENT OF ACCOMM. DOOR & WINDOW (DWG. NO. 4111035)

2. DOOR NO. , KEY NO. , AND MARKS ARE AS FOLLOWS.

   a). "DOOR NO." IS SHOWN ON THE FOLLOW LIST

DOOR NO.	DOOR NO.
801:~ NAV. BRI. DECK (06)	201:~ UPPER DECK
701:~ SR. OFFR'S DECK (05)	101:~ SECOND DECK
601:~ PASSENGER DECK (04)	001:~ OTHER DECK
501:~ BOAT DECK (03)	
401:~ CREW DECK (02)	
301:~ SALOON DECK (01)	

   b). "KEY NO." IS SHOWN ON THE FOLLOW
      1. CT∗000 ; MORTISE CYLINDER LOCK WITH THUMBTURN
      2. ST∗000 ; MORTISE RODKEY LOCK WITH THUMBTURN
      3. L ; MORTISE LATCH
      4. IL ; MORTISE LATCH WITH INDICATOR
      5. C=000 ; MORTISE CYLINDER LOCK

   c). MARKS ARE AS FOLLOWS
      1. V ; VENTILATION LOUVER (AREA 0.027m²)
      2. V ; VENTILATION LOUVER (AREA 0.047m²)
      3. D ; DOOR CLOSER (ADJUSTABLE TYPE)
      4. ※D ; DOOR CLOSER & MAGNETIC CATCHER (DOOR SHALL BE CLOSED FROM WHEEL HOUSE)

LIST OF KEYS

6/

DECK	DOOR No	ROOM	KEY No	SUB MASTER: ROOM SERVICE	DECK DEPT	ENGINE DEPT	STEWD. DEPT	NOTE
NAV. BR.	801	WHEEL HOUSE	D-801		O			
	802	〃	〃		O			
	803	〃	D-801		O			
	804	SERVICE LKR (B)	RS-804	O				
	805	W. C.	IL					
	806	ELECTRIC RM.	E-806			O		
S. OFF. DECK	701	ENTRANCE	D-801		O			
	702	MASTER'S DAY RM. (501)	RS-702	O				
	703	〃 BED 〃	〃	O				
	704	〃 LAV.	L					
	705	〃 OFFICE~DAY	RS-702	O				
	706	〃 OFFICE	〃	O				
	707	〃 CLOSET	D-707		O			
	708	COMPUTER RM.	D-708		O			
	709	CH. ENG. OFFICE	RS-709	O				
	710	〃 DAY RM. (502)	〃	O				
	711	〃 BED 〃	〃	O				
	712	〃 LAV.	L					
	713	〃 OFFICE~DAY	RS-709	O				
	714	〃 CLOSET	E-714			O		
	715	ENTRANCE	D-801		O			
	716	1/ASS. ENG. DAY RM. (506)	RS-716	O				
	717	〃 〃 BED 〃	〃	O				
	718	〃 〃 LAV	L					
	719	SERVICE LKR. (A)	RS-804	O				
	720	BAGGAGE LKR.	S-720				O	
	721	RADIO RM.	D-721		O			
	722	LAUNDRY	S-722				O	
	723	STAIRWAY	L					

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(DR. No. 4111042)

7/

DECK	DOOR No	ROOM	KEY No	SUB MASTER: ROOM SERVICE	DECK DEPT	ENGINE DEPT	STEWD. DEPT	NOTE
S. OFF. DECK	724	RADIO OFF. DAY RM.	RS-724	O				
	725	〃 〃 BED 〃	〃	O				
	726	〃 〃 BED~RADIO RM	D-726		O			
	727	〃 〃 LAV.	L					
	728	PIPE & CABLE TRUNK	E-105			O		
	729	CH. MATE DAY RM.	RS-729	O				
	730	〃 〃 BED RM.	〃	O				
	731	〃 〃 LAV.	L					
PASS. DECK	601	ENTRANCE	D-801		O			
	602	PASS. (P3) DAY RM.	RS-602	O				
	603	〃 BED 〃	〃	O				
	604	〃 LAV.	IL					
	605	PASS. (P3) ~(P1)	S-605				O	
	606	BAGG LKR	S-720				O	
	607	DECK CHAIRS	S-607				O	
	608	PASS. (P1) DAY RM.	RS-608	O				
	609	〃 BED 〃	〃	O				
	610	〃 LAV.	IL					
	611	PASS. (P2) DAY RM.	RS-611	O				
	612	〃 BED 〃	〃	O				
	613	〃 LAV.	IL					
	614	PASS. (P2)~(P4)	S-614				O	
	615	SERV. LKR (A)	RS-804	O				
	616	PASS. (P4) DAY RM.	RS-616	O				
	617	〃 BED 〃	〃	O				
	618	〃 LAV.	IL					
	619	ENTRANCE	D-801		O			
	620	SPARE BULB LKR.	E-806			O		

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DECK	DOOR No	ROOM	KEY No	SUB MASTER: ROOM SERVICE	DECK DEPT	ENGINE DEPT	STEWD. DEPT	NOTE
PASS. DECK	621	PASS. (P6) DAY RM.	RS-621	O				
	622	〃 BED 〃	〃	O				
	623	〃 LAV	IL					
	624	LAUNDRY	S-722				O	
	625	PASS. LOUNGE	RS-625	O				
	626	〃 〃	〃	O				
	627	GAME EQUIP'T CLOSET	〃	O				
	628	STAIRWAY	L					
	629	PIPE & CABLE TRUNK	E-105			O		
	630	PASS (P5) DAY RM.	RS-630	O				
	631	〃 BED 〃	〃	O				
	632	〃 LAV.	IL					
	633	BAGGAGE LKR	S-720				O	
	635	PASS. LOUNGE CLOSET	RS-625	O				
BOAT DECK	501	ENTRANCE	D-801		O			
	502	2/MATE (B1) DAY RM.	RS-502	O				
	503	〃 BED 〃	〃	O				
	504	〃 LAV.	L					
	505	SERVICE LKR. (A)	RS-804	O				
	506	OFF. [illegible] RM.	RS-506	O				
	507	〃 〃 〃	〃	O				
	508	PILOT	RS-508	O				
	509	〃 LAV.	L					
	510	2/ASS. ENG. (B4) DAY RM.	RS-510	O				
	511	〃 〃 BED RM.	〃	O				
	512	〃 〃 LAV.	L					
	513	ENTRANCE	D-801		O			
	514	CADET (B10)	RS-514	O				
	515	〃 LAV.	L					

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DECK	DOOR No	ROOM	KEY No	SUB MASTER: ROOM SERVICE	SUB MASTER: DECK DEPT	SUB MASTER: ENGINE DEPT	SUB MASTER: STEWD. DEPT	NOTE
	516	CADET (B8)	RS-516	O				
	517	〃 LAV.	L					
	518	3/ASS. ENG. (B6) DAY RM.	RS-518	O				
	519	〃 〃 BED RM	〃	O				
	520	〃 〃 LAV.	L					
BOAT DECK	521	BAGGAGE LKR.	S-720				O	
	522	STAIRWAY	L					
	523	3/MATE (B5) DAY RM.	RS-523	O				
	524	〃 BED RM.	〃	O				
	525	〃 LAV.	L					
	526	PIPE & CABLE TRUNK	E-105			O		
	527	NIGHT RELIEF ENG. (B7)	RS-527	O				
	528	〃 〃 〃 LAV.	L					
	529	〃 〃 MATE (B9)	RS-529	O				
	530	〃 〃 〃 LAV	L					
	531	CLOSET	S-531				O	
	401	ENTRANCE	D-801		O			
	402	AB NO.1 (C7)	D-402		O			
	403	〃 LAV.	L					
	404	AB NO.2 (C5)	D-404		O			
	405	〃 LAV.	L					
CREW DECK	406	AB NO.3 (C3)	D-406		O			
	407	〃 LAV.	L					
	408	SPARE (C1)	D-408		O			
	409	〃 LAV.	L					
	410	SPARE (C2)	D-410		O			
	411	〃 LAV.	L					
	412	SPARE (C4)	D-412		O			
	413	〃 LAV.	L					

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DECK	DOOR No	ROOM	KEY No	SUB MASTER: ROOM SERVICE	SUB MASTER: DECK DEPT	SUB MASTER: ENGINE DEPT	SUB MASTER: STEWD. DEPT	NOTE
	414	WIPER NO.2 (C6)	E-414			O		
	415	〃 LAV.	L					
	416	WIPER NO.1 (C8)	E-416			O		
	417	〃 LAV.	L					
	418	ENTRANCE	D-801		O			
	419	LAUNDRY	S-722				O	
	420	ELECT. (C12) DAY RM.	E-420			O		
CREW DECK	421	〃 BED 〃	〃			O		
	422	〃 LAV.	L					
	423	BAGGAGE LKR.	S-720				O	
	424	STEWARD (C10) DAY RM.	S-424				O	
	425	〃 BED RM.	〃				O	
	426	〃 LAV.	L					
	427	SERV. LKR. (A)	RS-804	O				
	428	STAIRWAY	L					
	429	BOSUN (C9) DAY RM.	D-429		O			
	430	〃 BED 〃	〃		O			
	431	〃 LAV.	L					
	432	PIPE & CABLE TRUNK	E-105			O		
	433	OS NO.2 (C11)	D-433		O			
	434	〃 LAV.	L					
	435	OS NO.1 (C13)	D-435		O			
	436	〃 LAV.	L					
	437	CLOSET	S-437				O	
	301	ENTRANCE	D-801		O			
SALOON DECK	302	STEWARD OFFICE	S-302				O	
	303	〃 STORE	〃				O	
	304	CH. COOK (S3)	S-304				O	
	305	〃 LAV.	L					
	306	SPARE (S1)	S-306				O	

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DECK	DOOR No	ROOM	KEY No	SUB MASTER: ROOM SERVICE	SUB MASTER: DECK DEPT	SUB MASTER: ENGINE DEPT	SUB MASTER: STEWD. DEPT	NOTE
	307	SPARE (S1) LAV.	L					
	308	W.C.	IL					
	309	CREW REC. RM.	S-309				O	
	310	〃 〃 〃	〃				O	
	311	STWD. UTILITY (S2)	S-311				O	
	312	〃 〃 LAV.	L					
	313	HOSPITAL	D-313		O			
	314	〃 BATH	IL					
SALOON DECK	315	ENTRANCE	D-801		O			
	316	OFF. & PASS. DINING RM.	S-316				O	
	317	DUTY MESS RM.	〃				O	
	318	DUTY MESS ~ DINING RM	〃				O	
	320	GALLEY ~ DINING	S-323				O	
	321	SERVICE LKR (A)	RS-804	O				
	322	STAIRWAY	L					
	323	GALLEY	S-323				O	
	324	GALLEY ~ MESS	〃				O	
	326	GAMES	S-326				O	
	327	PIPE & CABLE TRUNK	E-105			O		
	328	CREW MESS RM.	S-328				O	
	329	GARBAGE CHUTE	L					

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DECK	DOOR No	ROOM	KEY No	SUB MASTER: ROOM SERVICE	SUB MASTER: DECK DEPT	SUB MASTER: ENGINE DEPT	SUB MASTER: STEWD. DEPT	NOTE
	201	GARBAGE RM.	S-201				O	
	202	DECK CHANGE RM.	D-202		O			
	203	DECK OFFICE	D-203		O			
	204	LKR.	S-204				O	
	205	HANDLING SPACE	S-205				O	
	206	PIPE & CABLE TRUNK	E-105			O		
	207	DRY PROV. STORE	S-207				O	WITH PAD LOCK
	208	BONDED 〃	G-208	GRAND MASTER ONLY WITHOUT SUB-MASTER				WITH PAD LOCK
UPPER DECK	209	GYMNASIUM	D-209		O			
	210	GYM. ~ POOL	L					
	211	STAIRWAY	L					
	212	SWIMMING POOL	D-212		O			
	213	HOBBY RM	D-213		O			
	214	SLOP CHEST	G-214	GRAND MASTER ONLY WITHOUT SUB-MASTER				WITH PAD LOCK
	216	SERVICE LKR. (B)	RS-804	O				
	217	ARCHIVES	E-217			O		
	218	W.C.	IL					
	219	BALLAST CONT. RM. & CARGO OFFICE	D-219		O			
	220	ENG. OFFICE	E-220			O		
	221	ENG. OFF. ~ SUEZ CREW	D-221		O			
	222	SUEZ CREW LAV.	L					
	223	〃 〃 W.C.	IL					
	224	〃 〃 〃	〃					
	230	FROZEN	S-230				O	PAD LOCK
	231	CHILLED	S-231				O	PAD LOCK

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DECK	DOOR No	ROOM	KEY No	SUB MASTER ROOM SERVICE	SUB MASTER DECK DEPT	SUB MASTER ENGINE DEPT	SUB MASTER STEWD. DEPT	NOTE
SECOND DECK	101	FWD SWITCH BRD RM.	E-806			O		
	102	FIRE STATION	D-102		O			
	103	PROV. REF. MACH. RM.	E-103			O		
	104	ELEV. MACH. RM.	E-104			O		
	105	PIPE & CABLE TRUNK	E-105			O		
	106	CO_2 BOTTLE RM	D-106		O			
	107	STAIRWAY	L					
	108	LKR.	S-108				O	
	109	DIRTY LINEN LKR.	S-111				O	
	110	CLEAN 〃 〃	〃				O	
	111	SHIP'S LAUNDRY	〃				O	
	112	PASSAGE	D-112		O			
FWD MACH. SPACE	001	AIR COND. UNIT RM.	E-103			O		

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DECK	DOOR No	ROOM	KEY No	SUB MASTER ROOM SERVICE	SUB MASTER DECK DEPT	SUB MASTER ENGINE DEPT	SUB MASTER STEWD. DEPT	NOTE
ENGINE ROOM	EH 1	SHAFT TUNNEL	L					HOLLOW DOOR
	EH 2	ENG. CONT. RM	E-EH-2			O		〃
	EH 3	〃 〃 〃	〃			O		〃
	EH 4	ENG. RM.	L					〃
	EH 5	〃 〃	L					〃
	EH 6	ELECT. WORK SHOP	E-EH-6			O		〃
	EH 7	ENG. RM.	L					〃
	EH 8	〃 〃	L					〃
	EH 9	〃 CONFERENCE RM.	E-EH-9			O		〃
	EH 10	FIRE EQUIP^T RM.	L					〃
	EH 11	EM. GENERATOR RM.	L					〃
	EH 12	LAVATORY	IL					〃
	EH 13	EM. GENERATOR RM.	L					〃
	[illegible]	ESCAPE TRUNK	L					〃
	ES 1	PURIFIER RM.	—					STEEL NON TIGHT DOOR
	ES 2	〃 〃	—					〃
	ES 3	ENG. WORK SHOP	E-ES-3			O		★1
	ES 4	〃 〃 〃	—					〃
	ES 5	W. C.	IL					〃
	ES 6	CHANGE RM.	E-ES-6			O		★1
	ES 7	ELEVAT. MACH. SPACE	E-ES-7			O		★1
	ES 8	ENG. STORE	E-ES-8			O		★1
	ES 9	〃 〃	〃			O		★1
	ES 10	ELECT. STORE	E-ES-10			O		★1
	ES 11	ENG. RM.	—					〃

NOTICE!
1. ★1 MARK: CYLINDER LOCK WITH THUMBTURN

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DECK	DOOR No	ROOM	KEY No	SUB MASTER ROOM SERVICE	SUB MASTER DECK DEPT	SUB MASTER ENGINE DEPT	SUB MASTER STEWD. DEPT	NOTE
FLOOR PLATE LEVEL	[illegible]	DUCT KEEL	—					ESCAPE HATCH
UPPDK	H/A 1	NO.1 HOLD	D-H/A-1		O			ACCESS HATCH (PAD LOCK)
	H/A 2	NO.2 HOLD	D-H/A-2		O			〃
	H/A 3	NO.3 HOLD	D-H/A-3		O			〃
	H/A 4	NO.4 HOLD	D-H/A-4		O			〃
	H/A 5	NO.6 HOLD	D-H/A-5		O			〃
UPPDK	[illegible]	DUCT KEEL	—					ESCAPE HATCH
	[illegible]	SHAFT TUNNEL	—					〃
UPPDK 5.2M LEVEL	[illegible]	CO_2 BOTTLE RM.	—					ESCAPE HATCH
	[illegible]	EMERG. GEN. RM.	—					〃
	[illegible]	ELEVATOR TRUNK	—					〃
SALOON DECK	[illegible]	BOATSN'S STORE	D-W/C-2		O			ROPE HATCH (PAD LOCK)
UPPDK 5.2M LEVEL	[illegible]	STEERING GEAR ROOM	D-W/C-11		O	O		〃
	[illegible]	ENGINE RM.	E-W/C-9			O		HATCH (PAD LOCK)
2ND DK UNDER DK PASSAGE	W/T 1	ENTRANCE	—					ESCAPE HATCH
	W/T 2	ENTRANCE	—					〃
	W/T 3	PASSAGE WAY	—					〃
	W/T 4	PASSAGE WAY	—					〃
	[illegible]	PASSAGE WAY	—					〃
	[illegible]	PASSAGE WAY	—					〃
	[illegible]	STEERING GEAR ROOM						〃
	[illegible]	STEERING GEAR ROOM						〃

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DECK	DOOR No	ROOM	KEY No	SUB MASTER ROOM SERVICE	SUB MASTER DECK DEPT	SUB MASTER ENGINE DEPT	SUB MASTER STEWD. DEPT	NOTE
UPP DK.	[illegible]	CHAIN LKR.	—					STEEL DOOR (HP LOCK)
	[illegible]	CHAIN LKR.	—					〃
SALOON DECK	[illegible]	HOSPITAL	D-313		O			STEEL DOOR (PAD LOCK)
UPPDK.	[illegible]	CO_2 BOTTLE RECCESS	D-W/S-2		O			〃
UPPDK.	[illegible]	WATCH MAN'S ST.	D-W/B-1		O			STEEL DOOR (PAD LOCK)
	[illegible]	HANDLING SPACE	S-205				O	〃
	[illegible]	OIL SKIN LKR	D-W/B-3		O			〃
	[illegible]	ENTRANCE	D-801		O			〃
	[illegible]	ENTRANCE	D-801		O			〃
	[illegible]	SUEZ CANAL CREW CONF. RM.	D-221		O			〃
	[illegible]	DECK STORE	D-W/B-7		O			〃
SALOON DECK	[illegible]	ENTRANCE	D-801		O			〃
	[illegible]	ENTRANCE	D-801		O			〃
UPPDK. NAV. BRIDGE DK.	[illegible]	BOATSN'S STORE	D-W/C-2		O			STEEL DOOR (PAD LOCK)
	[illegible]	BATT. RM.	E-W/C-3			O		〃
UPPDK.	[illegible]	NO.5 HOLD	D-W/C-4		O			〃
	[illegible]	NO.5 HOLD	〃		O			〃
	[illegible]	ESCAPE TRUNK FOR ENG. CONTROL RM.	E-EH-2			O		〃
	[illegible]	PAINT RM.	D-W/C-7		O			〃
	[illegible]	ENGINE CONFERENCE RM.	E-EH-9			O		〃
	[illegible]	ENGINE ROOM	E-W/C-9			O		〃
	[illegible]	ENGINE ROOM	E-W/C-9			O		〃
	[illegible]	STEERING GER RM.	D-W/C-11		O			〃
5.2M LEVEL	[illegible]	ENGINE ROOM	E-W/C-9			O		〃
NAV. BRDK.	[illegible]	DECK CHAIR	S-W/C-13				O	〃
5.2M LEVEL	[illegible]	EMERG. GEN. RM.	E-W/C-14			O		〃

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DECK	DOOR No	ROOM	KEY No	SUB MASTER: ROOM SERVICE	SUB MASTER: DECK DEPT	SUB MASTER: ENGINE DEPT	SUB MASTER: STEWD DEPT	NOTE
SALOON DECK ↓	N/H 1	WATER BREAK	—	—	—	—	—	STEEL DOOR (NO LOCK)
	N/H 2	〃	—	—	—	—	—	〃
NAV BRIDGE DK ↓	N/S 1	NAV. BR. DK, WING	—	—	—	—	—	STEEL DOOR (NO LOCK)
	N/S 2	〃	—	—	—	—	—	〃
2ND DK	M/B 1	FWD MACH. SPACE	E-103			○		STEEL DOOR (CYLINDER LOCK WITH THUMBTURN OMS 3550-3)

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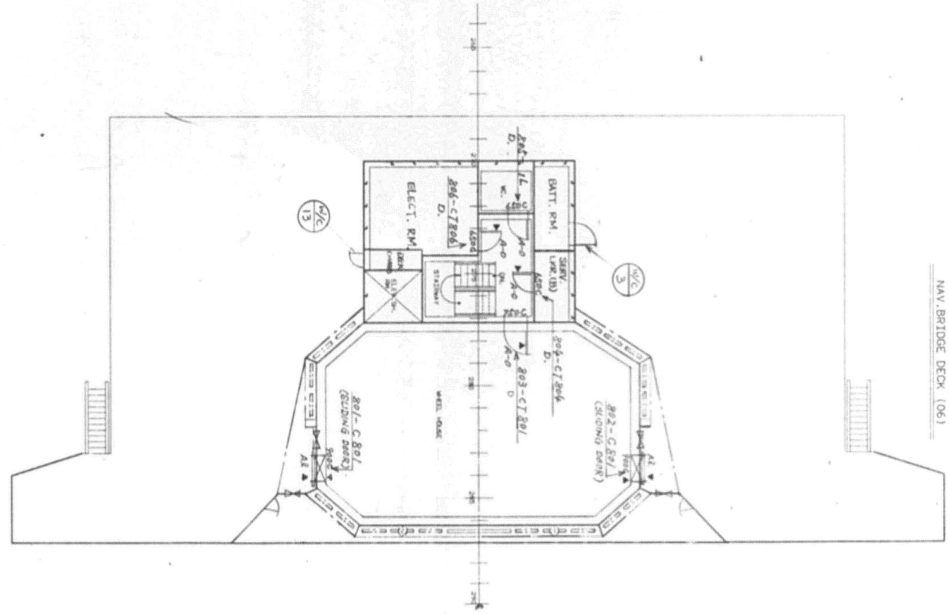
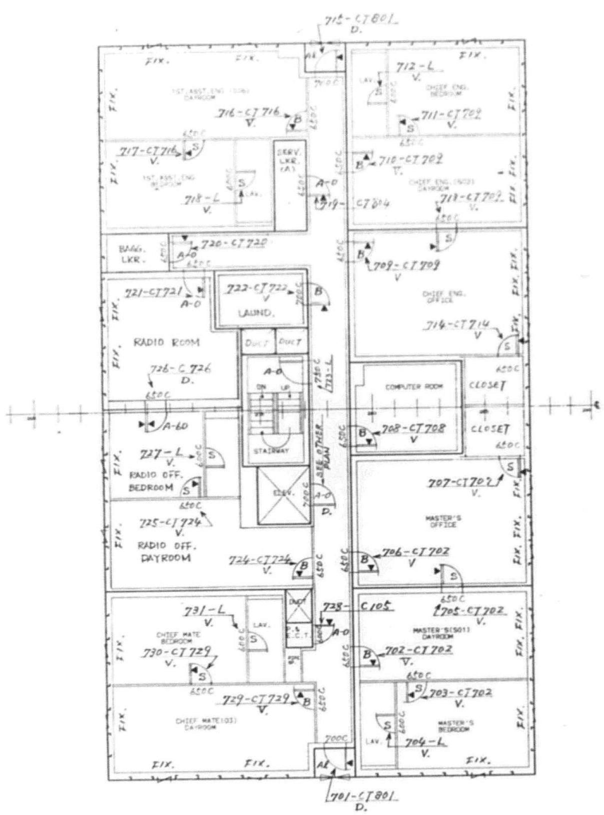


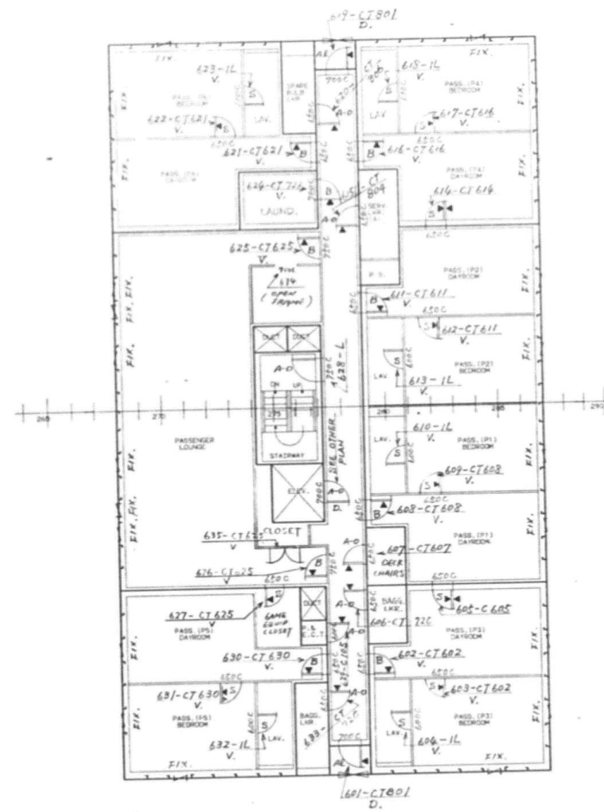
18/

508

SR. OFFICER'S DECK (05)

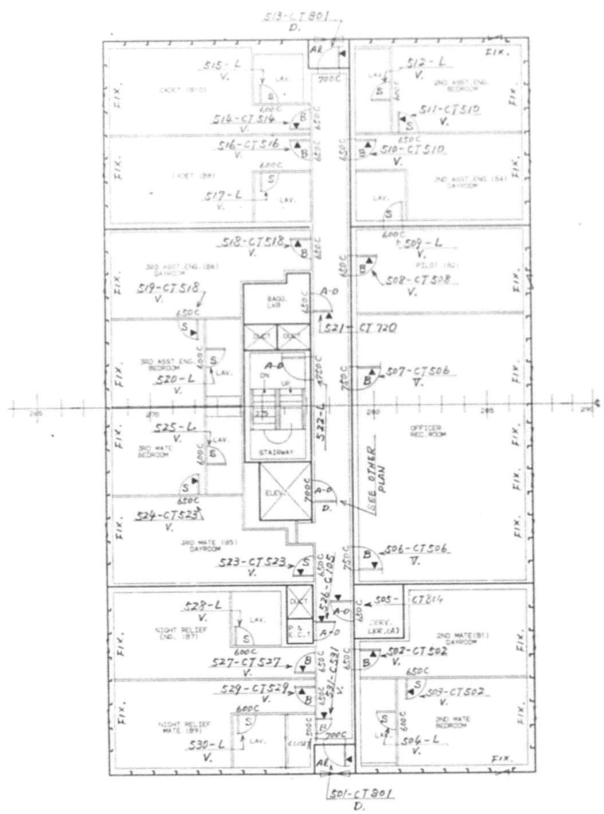


PASSENGER DECK (04)

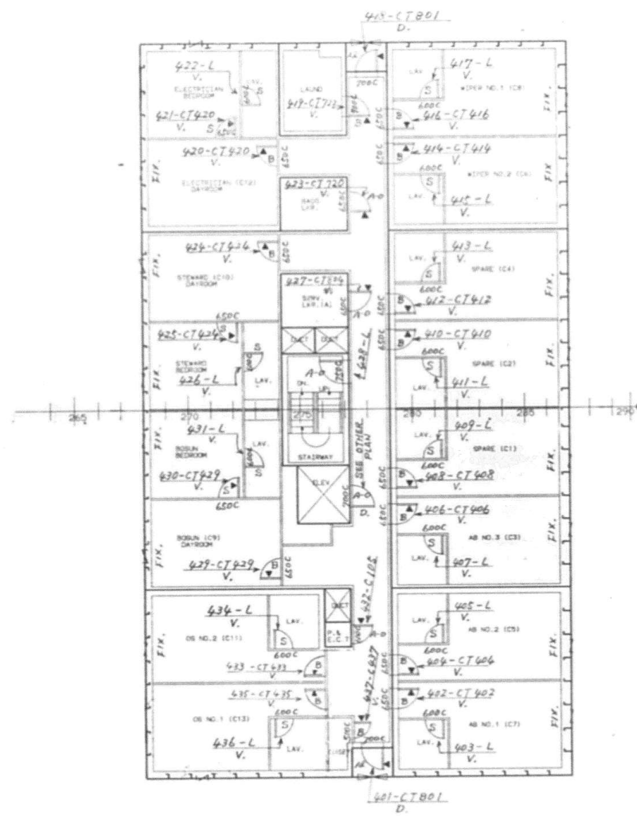


509

BOAT DECK (03)

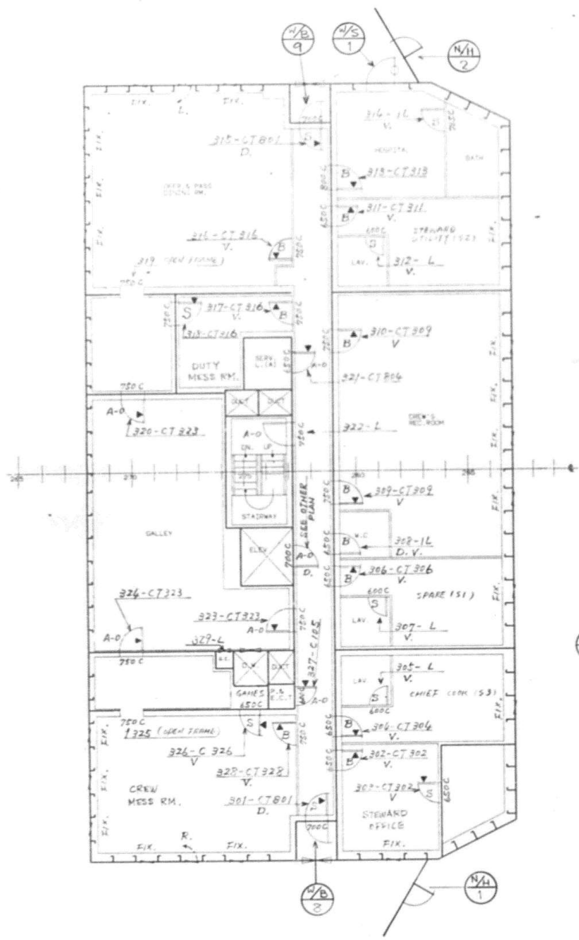


CREW DECK (02)

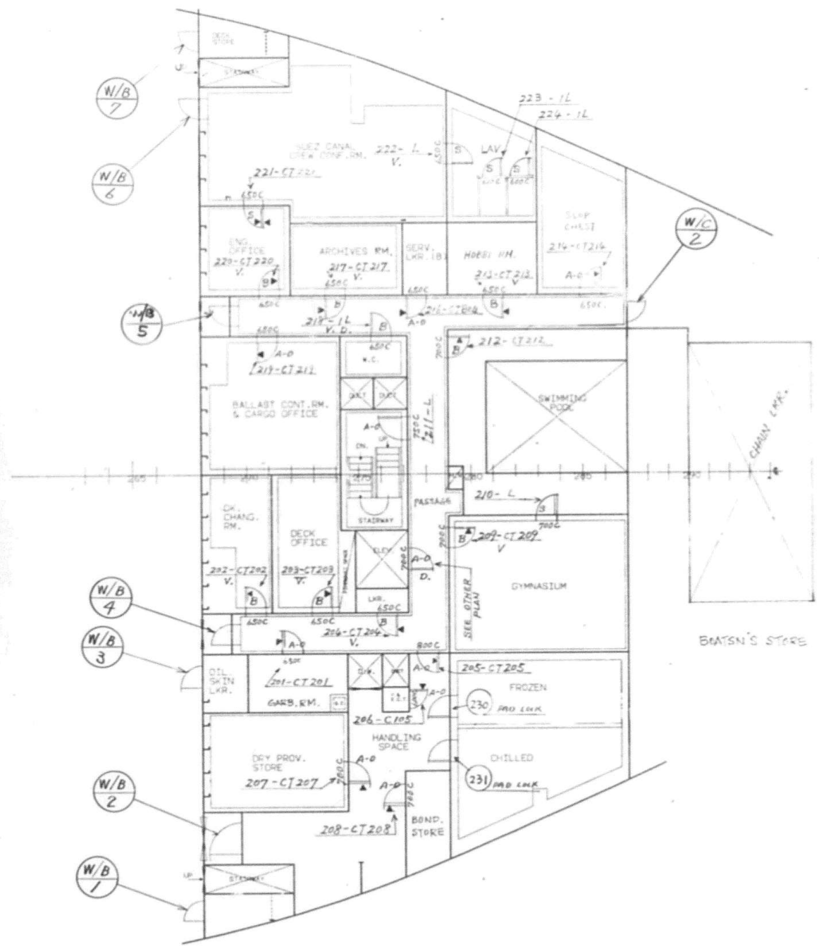


510

SALOON DECK (01)



UPPER DECK



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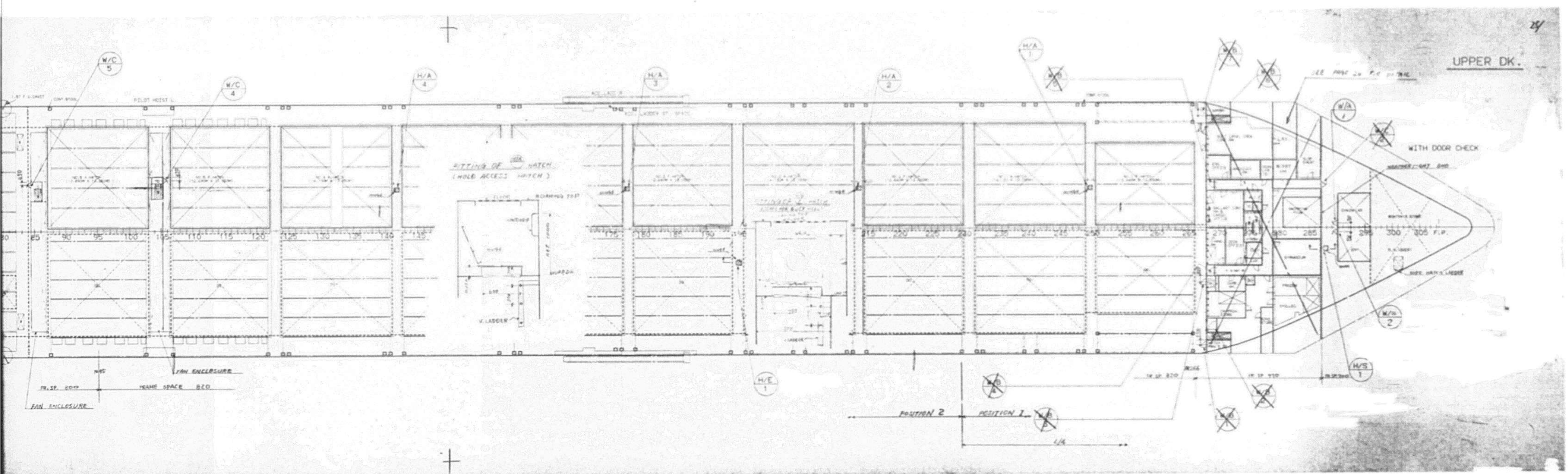
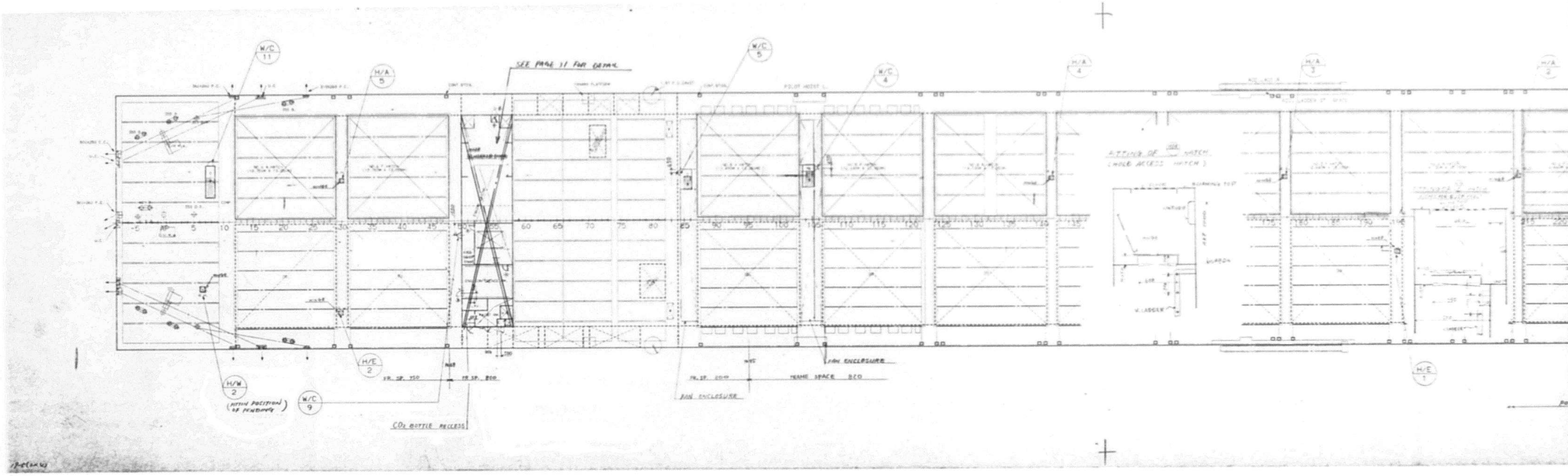

UPPER DK.
WITH DOOR CHECK
FITTING OF HATCH
(HOLD ACCESS HATCH)
V. LADDER
FAN ENCLOSURE
FRAME SPACE 820
POSITION 2
POSITION 1
H/A
W/C
H/E
H/S



W/C 11
H/A 5
SEE PAGE 11 FOR DETAIL
W/C 5
W/C 4
H/A 4
H/A 3
H/A 2
-5
AP
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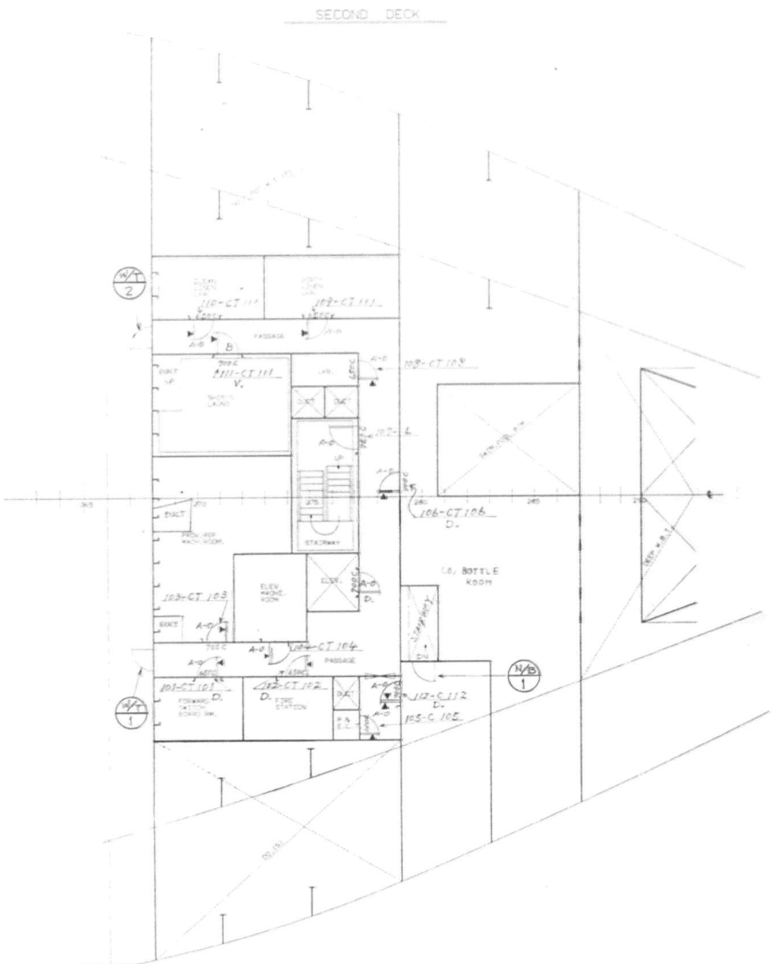
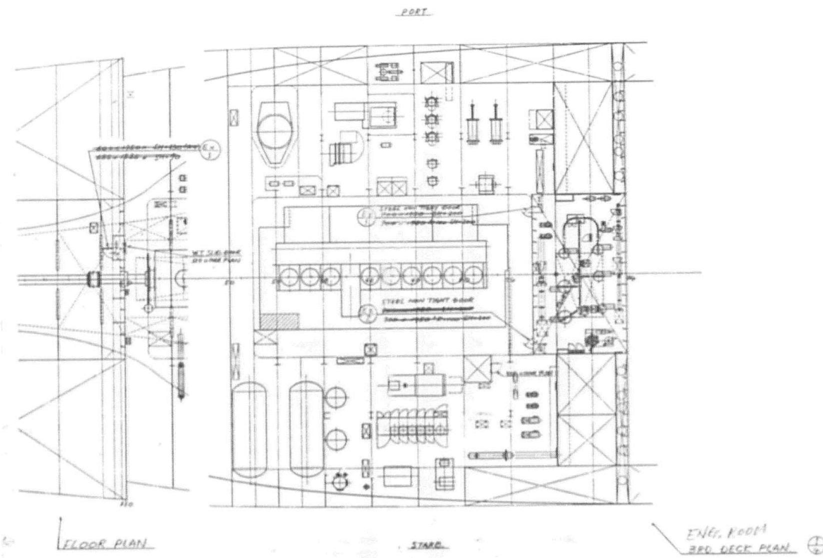
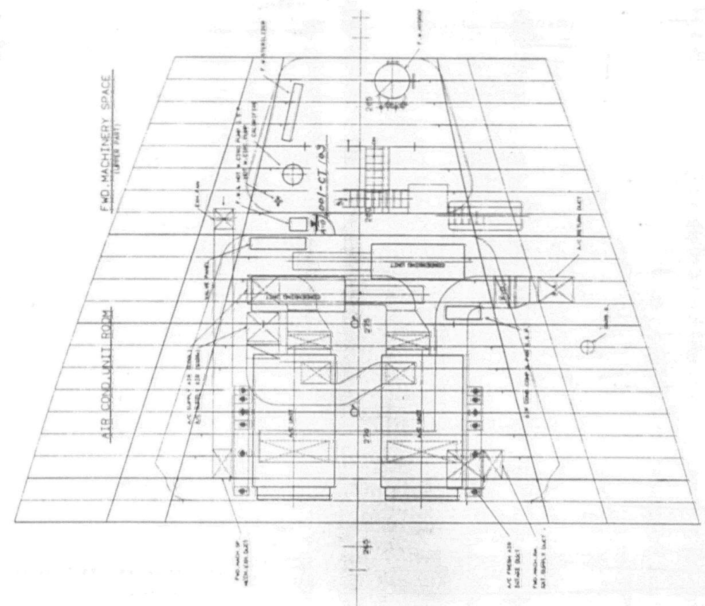
145
175
180
185
190
195
215
220
H/E 2
H/W 2
(FITTIN POSITION OF PENDING)
W/C 9
FR. SP. 750
FR. SP. 800
CO2 BOTTLE RECCESS
FAN ENCLOSURE
FRAME SPACE 820
H/E 1
(HOLD ACCESS HATCH)
W. LADDER

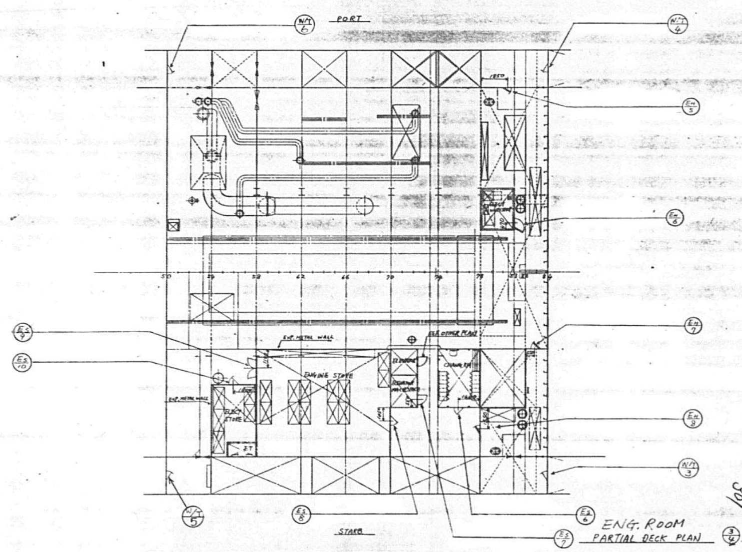
513


SECOND DECK
PASSAGE
STAIRWAY
C.O. BOTTLE ROOM

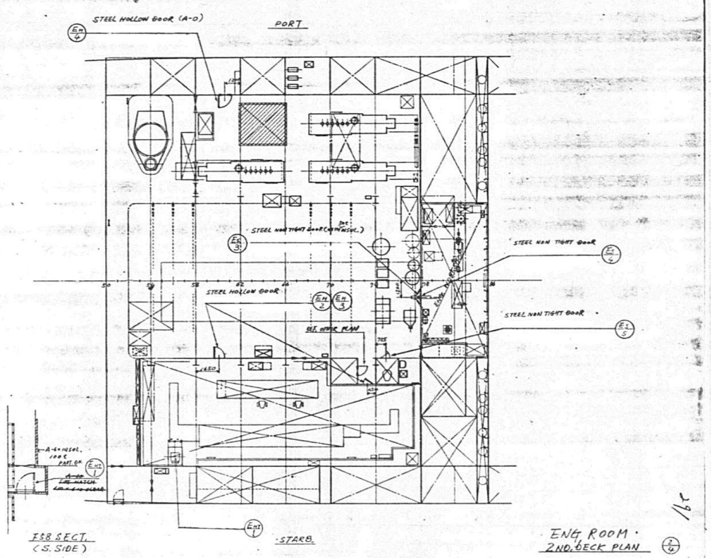

PORT
FLOOR PLAN
STARB.
ENG. ROOM
3RD DECK PLAN


F.W.O. MACHINERY SPACE
AIR COND. UNIT ROOM

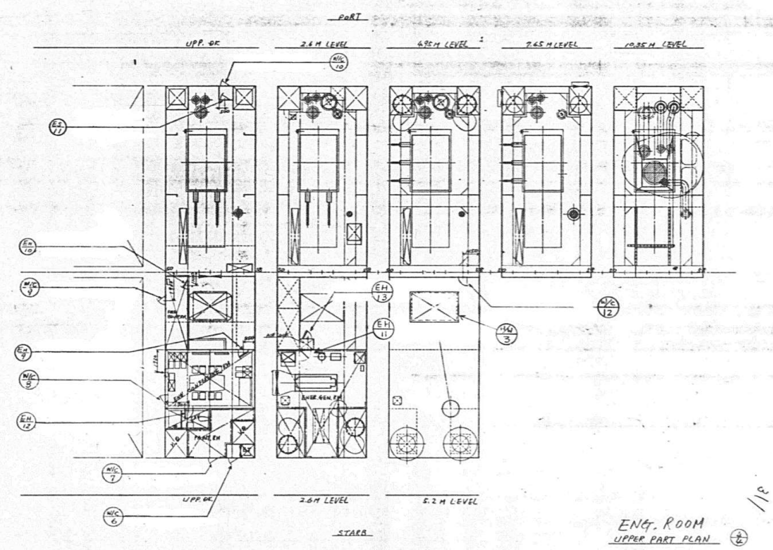
514



ENG. ROOM
PARTIAL DECK PLAN



ENG. ROOM.
2ND. DECK PLAN



ENG. ROOM
UPPER PART PLAN

515

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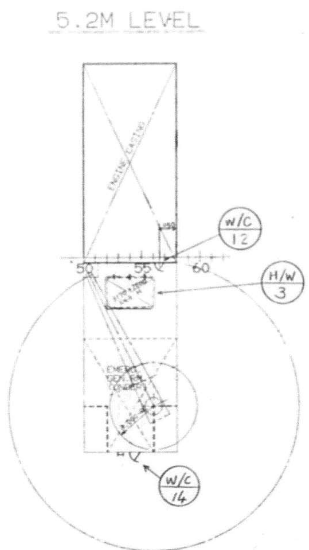
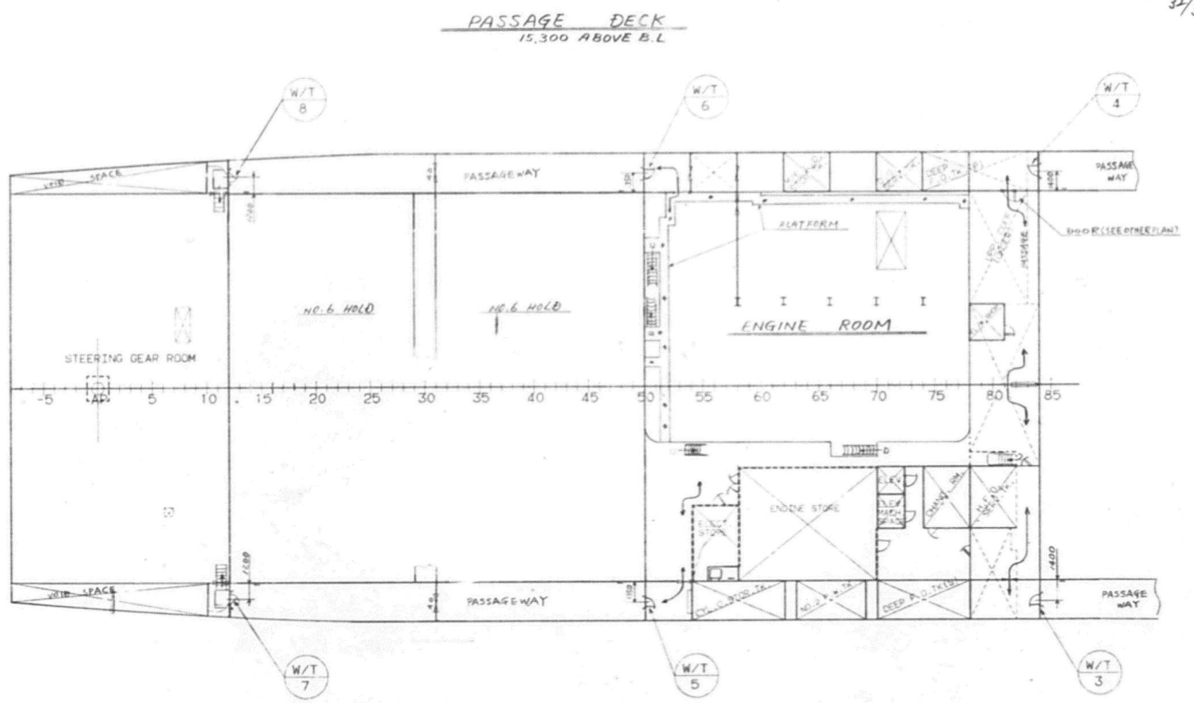

5.2M LEVEL
W/C 12
H/W 3
W/C 14
50
55
60


PASSAGE DECK
15,300 ABOVE B.L
W/T 8
W/T 6
W/T 4
PASSAGEWAY
PASSAGE WAY
DOOR (SEE OTHER PLAN)
PLATFORM
NO.6 HOLD
NO.6 HOLD
STEERING GEAR ROOM
ENGINE ROOM
ENGINE STORE
PASSAGEWAY
PASSAGE WAY
W/T 7
W/T 5
W/T 3

516

APPROVAL OF OWNER & REGULATORY BODIES								
ALT.NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	NOV/23 1985	TAM/117						

FINISHED PLAN

SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER
SHIP'S NO. **NO.1325**
SHIP'S NAME **TILLIE LYKES**

OUTFITTING DESIGN SECTION
SEC.CHIEF / ASSIST CHIEF / CHARGE ENG'R / STAFF / DATE (TEL.2236)

キーリスト（家具用）
KEY LIST FOR FURNITURE

JOB NO. TS1323/24/25
JOBCLASSIF.NO. D11
SCALE
LYKES REF. NO. 120403
MITSUI DRAWING NO. 4111043

(7 SHEETS WITH COVER)

PLAN RECORD			
REV. NO.	DATE	DESCRIPTION	CHECKED BY.
	5.OCT. 1986	PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325.	T.Saito T.Takata

GENERAL NOTE

1. THIS PLAN SHOWS KEY LIST OF FURNITURE EXCEPT FURNITURE ON THE MARKET (MAKER STANDARD).
2. THREE (3) SET OF KEYS SHALL BE SUPPLIED FOR EACH LOCK OF FURNITURE.

REFERENCE			
NO.	REF. NO	DWG NO	DWG NAME
1	120402	4111042	MASTER KEY SYSTEM
2	330602	4111027	STEEL FURNITURE

DWG.NO. 4111043

(5)

KEY LIST OF FURNITURE

ROOM	KEY NO	DRAWER BED	DRAWER DESK	DRAWER OTHER	DOOR LEFT OPEN WARDROBE	DOOR LEFT OPEN BOOKCASE	DOOR LEFT OPEN OTHER	DOOR RIGHT OPEN WARDROBE	DOOR RIGHT OPEN BOOKCASE	DOOR RIGHT OPEN OTHER	TOTAL DRAWER	TOTAL DOOR LEFT	TOTAL DOOR RIGHT
WHEEL HOUSE	803			CHART TABLE 3; SMALL CABINET 2			CHART TABLE 1; SIGNAL FLAG BOX 1			CHART TABLE 1; SIGNAL FLAG BOX 2; LOCKER 2; SMALL CABINET 1	5	2	6
MASTER'S BED RM / MASTER'S OFFICE	702		3	NIGHT STAND 6	1			1	2	DESK CABINET 1; KEY LOCKER 1	9	1	5
CHIEF ENG BED RM / CHIEF ENG OFFICE	709		3	NIGHT STAND 6	1			1	2	DESK CABINET 1; KEY LOCKER 1	9	1	5
CHIEF MATE DAY RM / CHIEF MATE BED RM	729		3	NIGHT STAND 6				1		TYPE TABLE 1; KEY LOCKER 1	9		3
RADIO OFF BED RM	724			CHEST DRAWER 2	1			1			2	1	1
1ST ASST ENG DAY RM / 1ST ASST ENG BED RM	716		3	NIGHT STAND 6				1		TYPE TABLE 1; KEY LOCKER 1	9		3
RADIO ROOM	721		2							DESK 1; WORK BENCH 1; CABINET 1	2		3
PASS (P1) BED RM	608A	(A) 2		NIGHT STAND (A) 1				1			3		1
	608B	(B) 2		NIGHT STAND (B) 1				1			3		1
PASS (P2) BED RM	611A	(A) 2		NIGHT STAND (A) 1				1			3		1
	611B	(B) 2		NIGHT STAND (B) 1				1			3		1
PASS (P3) BED RM	602A	(A) 2		NIGHT STAND (A) 1				1			3		1
	602B	(B) 2		NIGHT STAND (B) 1				1			3		1
PASS (P4) BED RM	616A	(A) 2		NIGHT STAND (A) 1				1			3		1
	616B	(B) 2		NIGHT STAND (B) 1				1			3		1
PASS (P5) BED RM	630A	(A) 2		NIGHT STAND (A) 1				1			3		1
	630B	(B) 2		NIGHT STAND (B) 1				1			3		1
PASS (P6) BED RM	621A	(A) 2		NIGHT STAND (A) 1				1			3		1
	621B	(B) 2		NIGHT STAND (B) 1				1			3		1

(81) (5) (38)

ISHIDA SENPAKU KOGYO CO. LTD

(6)

KEY LIST OF FURNITURE

ROOM	KEY NO.	DRAWER BED	DRAWER DESK	DRAWER OTHER	DOOR LEFT OPEN WARDROBE	DOOR LEFT OPEN BOOKCASE	DOOR LEFT OPEN OTHER	DOOR RIGHT OPEN WARDROBE	DOOR RIGHT OPEN BOOKCASE	DOOR RIGHT OPEN OTHER	TOTAL DRAWER	TOTAL DOOR LEFT	TOTAL DOOR RIGHT
2ND MATE DAY RM / 2ND MATE BED RM	502		3	CHEST DRAWER 2				1			5		1
PILOT	508	2	3					1			5		1
2ND ASST ENG DAY RM / 2ND ASST ENG BED RM	510		3	CHEST DRAWER 2				1			5		1
3RD MATE DAY RM / 3RD MATE BED RM	523		3	CHEST DRAWER 2				1			5		1
3RD ASST ENG DAY RM / 3RD ASST ENG BED RM	518		3	CHEST DRAWER 2				1			5		1
NIGHT RELIEF ENG	527	2	3					1			5		1
CADET (B8)	516	2	3					1			5		1
NIGHT RELIEF MATE	529	2	3					1			5		1
CADET (B10)	514	2	3					1			5		1
SPARE (C1)	408	2	3					1			5		1
SPARE (C2)	410	2	3		1						5	1	
AB. NO.3 (C3)	406	2	3		1						5	1	
SPARE (C4)	412	2	3					1			5		1
AB. NO.2 (C5)	404	2	3					1			5		1
WIPER NO.2 (C6)	414	2	3		1						5	1	
AB. NO.1 (C7)	402	2	3		1						5	1	
WIPER NO.1 (C8)	416	2	3					1			5		1
BOSUN (C9) DAY RM / BOSUN (C9) BED RM	429		7	CHEST DRAWER 2				1		KEY LOCKER 1	9		2
STEWARD (C10) DAY RM / STEWARD (C10) BED RM	424		7	CHEST DRAWER 2	1					KEY LOCKER 1	9	1	1

(193) (5) (16)

ISHIDA SENPAKU KOGYO CO. LTD

7/7

KEY LIST OF FURNITURE

ROOM	KEY NO.	DRAWER BED	DRAWER DESK	DRAWER OTHER	DOOR LEFT OPEN WARDROBE	DOOR LEFT OPEN BOOKCASE	DOOR LEFT OPEN OTHER	DOOR RIGHT OPEN WARDROBE	DOOR RIGHT OPEN BOOKCASE	DOOR RIGHT OPEN OTHER	TOTAL DRAWER	TOTAL DOOR LEFT	TOTAL DOOR RIGHT
OS. NO.2 (C11)	433	2	3		1						5	1	
ELECTRICIAN DAY RM / ELECTRICIAN BED RM	420		7	CHEST DRAWER 2				1		KEY LOCKER 1	9		2
OS. NO.1 (C13)	435	2	3					1			5		1
CHIEF COOK	304	2	3					1			5		1
SPARE (S1)	306	2	3		1						5	1	
STEWARD UTILITY	311	2	3		1						5	1	
STEWARD OFFICE	302		3				DESK 1				3	1	
HOSPITAL	313		3								3		
SUEZ CAN CREW CONF. RM	221A							1					1
	221B							1					1
	221C							1					1
	221D							1					1
	221E							1					1
	221F							1					1
ENG OFFICE	220		3							DESK 1	3		1
ARCHIVES RM	217									KEY LOCKER 1			1
BALLAST CONT RM / CARGO OFFICE	219		3							DESK 1	3		1
DECK OFFICE	203		3							DESK 1	3		1
HOBBY RM	213			TABLE 4							4		

(53) (4) (14)

TOTAL 237 14 68

ISHIDA SENPAKU KOGYO CO. LTD

518

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	FEB 19 '85	OFTS/MES/103			MAY 4 '84	T-8-2		
REV 1	JUN 12 '85	OFTS/MES-545			MAY 4 '84	T-8-2		
A	—	—			—	—		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME

MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER | SHIP'S NO. | SHIP'S NAME: TILLIE LYKES

OUTFIT. DESIGN SEC. (PIPING)
SEC. CHIEF
ASSISTANT CHIEF
STAFF
DATE (TEL 2240)

船底栓配置
ARRANGEMENT OF BOTTOM PLUG.

JOB NO. TS1323/24/25	SCALE	LYKES REF. NO.	MITSUI DRAWING NO.
JOBCLASSIF. NO.	—	120501	4116280

(11 SHEETS WITH COVER)

1/11

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		PREPARED FOR S.1323 AS FINISHED PLAN.	June 27,'86
		MADE APPLICABLE TO S.1324 AND S.1325.	

DWG.NO. 4116280 2/11

GENERAL NOTE

1. MARK ⊕ & ⊕ SHOW BOTTOM PLUG
2. OWNER'S REQUIREMENTS IN DISCUSSION MEMORANDUM OF HULL OUTFITTINGS. ITEM 26 (PAGE 202). DATED 16th TO 29th JAN. HAVE BEEN INCLUEDED.

INFORMATION

BOTTOM PLUGS (BP21 & 22) SHALL BE PROVIDED IN ACCORDANCE WITH PRESENT ARRANGEMENT WHICH IS ACCEPTED BY OWNER. (REF YOUR LTR NO OFTS/MES-340)

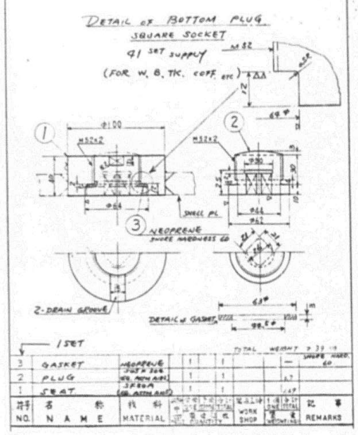
DWG.NO. 4116280 3/11

REFERENCE

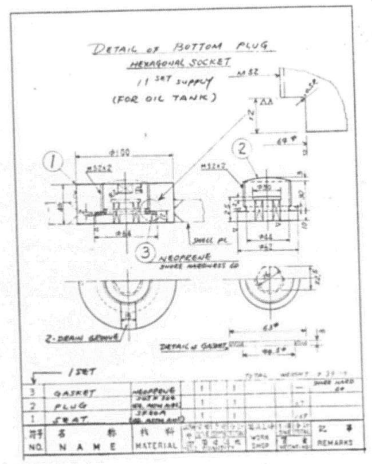
NO.	REF. NO.	DWG. NO.	DWG. NAME
1	830301	2104201	STERN FRAME & STERN TUBE
2	220003	2104301	RUDDER & RUDDER STOCK

DWG NO 4116280 4/11

519

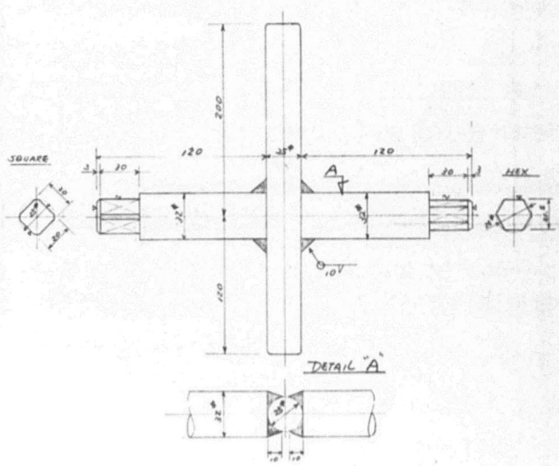


DWG NO 4116280 5/11



DWG NO 4116280 6/11

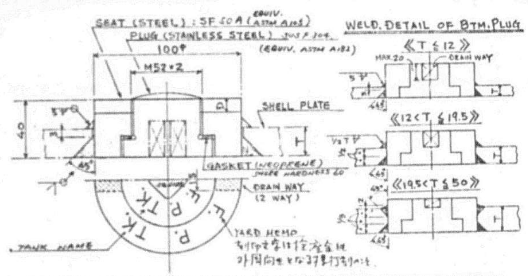
DETAIL OF SPANNER
(2 SET SUPPLY)



符号 NO.	名称 NAME	材料 MATERIAL	試験片 TEST PIECE	常備 USE	予備 SPARE	合計 TOTAL	関係工場 WORK SHOP	1個 ONE	合計 TOTAL	記事 REMARKS
	SPANNER	SF 60		2		2				GALV.

SPANNER FOR BOTTOM PLUG — 尺度 SCALE NON — TSO. — DR. NO. — PAGE

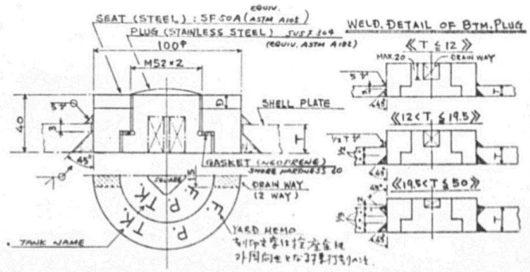
DWG NO 4116280 7/11



MARK	ENGRAVED NAME	THICK. OF SHELL PL. (T)	QUANT.	DEPTH OF DRAIN WAY (D)	SPANNER HOLE	MATERIAL OF SEAT.
BP-1	F. P. TK. (VOID)	22.5	1	—	SQUARE HOLE	SF50A (EQ. ASTM A105)
2	DOP. LOG COMP.	22.5	1	—		
3	DEEP W. B. TK.	22.5	1	—		
4	VOID (I)	24.5	1	—		
5	NO. 1 BTM. W. B. TK.	32.0	1	6		
6	NO. 2 F. W. B. TK. (P)	32.0	1	6		
7	NO. 2 F. W. B. TK. (S)	32.0	1	6		
8	NO. 2 A. W. B. TK. (P)	32.0	1	6		
9	NO. 2 A. W. B. TK. (S)	32.0	1	6		
10	NO. 3 BTM. W. B. TK. (P)	32.0	2	6		
11	NO. 3 BTM. W. B. TK. (S)	32.0	2	6		
12	NO. 4 BTM. W. B. TK. (P)	29.0	1	9		
13	NO. 4 BTM. W. B. TK. (S)	29.0	1	9		
14	NO. 5 BTM. W. B. TK. (P)	29.0	1	9		
15	NO. 5 BTM. W. B. TK. (S)	29.0	1	9		
16	DUCT KEEL	29.0	1	9		
17	COFF.	29.0	2	9		
18	VOID (II)	29.0	1	9		
19	NO. 6 WING W. B. TK. (P)	17.5	1	13		
20	NO. 6 WING W. B. TK. (S)	17.5	1	13		
21	BILGE WELL (P)	29.0	1	9		
22	BILGE WELL (S)	29.0	1	9		
23	BILGE TK.	29.0	1	9		
24	VOID (II)	29.0	1	9		
BP-25	CLEAN DR. TK.	29.0	1	9	SQUARE HOLE	SF50A (EQ. ASTM A105)

DWG NO 4116280 8/11

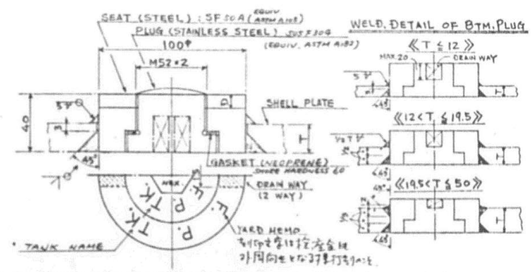
520



MARK	ENGRAVED NAME	THICK. OF SHELL PL. (T)	QUANT.	DEPTH OF DRAIN WAY (D)	SPANNER HOLE	MATERIAL OF SEAT
BP-26	NO. 4 F. WING W. B. TK. (P)	24.5	1	—	SQUARE HOLE	SF50A (EQ. ASTM A105)
27	NO. 4 F WING W. B. TK. (S)	24.5	1	—	↓	↓
28	NO. 4 A. WING W. B. TK. (P)	24.5	1	—	↓	↓
29	NO. 4 A WING W. B. TK. (S)	24.5	1	—	↓	↓
30	NO. 5 WING W. B. TK. (P)	24.5	1	—	↓	↓
31	NO. 5 WING W. B. TK. (S)	24.5	1	—	↓	↓
32	ANTI - HEEL. TK. (P)	28.0	1	—	↓	↓
33	ANTI - HEEL. TK. (S)	28.0	1	—	↓	↓
34	VOID	20.0	1	18	↓	↓
BP-35	VOID	20.0	1	18	SQUARE HOLE	SF50A (EQ. ASTM A105)
36	COFF. (II) (P)	26.0	1	12	↓	↓
37	COFF. (II) (S)	26.0	1	12	↓	↓
BP-38	ECHO SOUND. COMP.	22	1	6	↓	↓

TOTAL QUANT. = 41 SET (FOR W.B TK. COFF etc.)

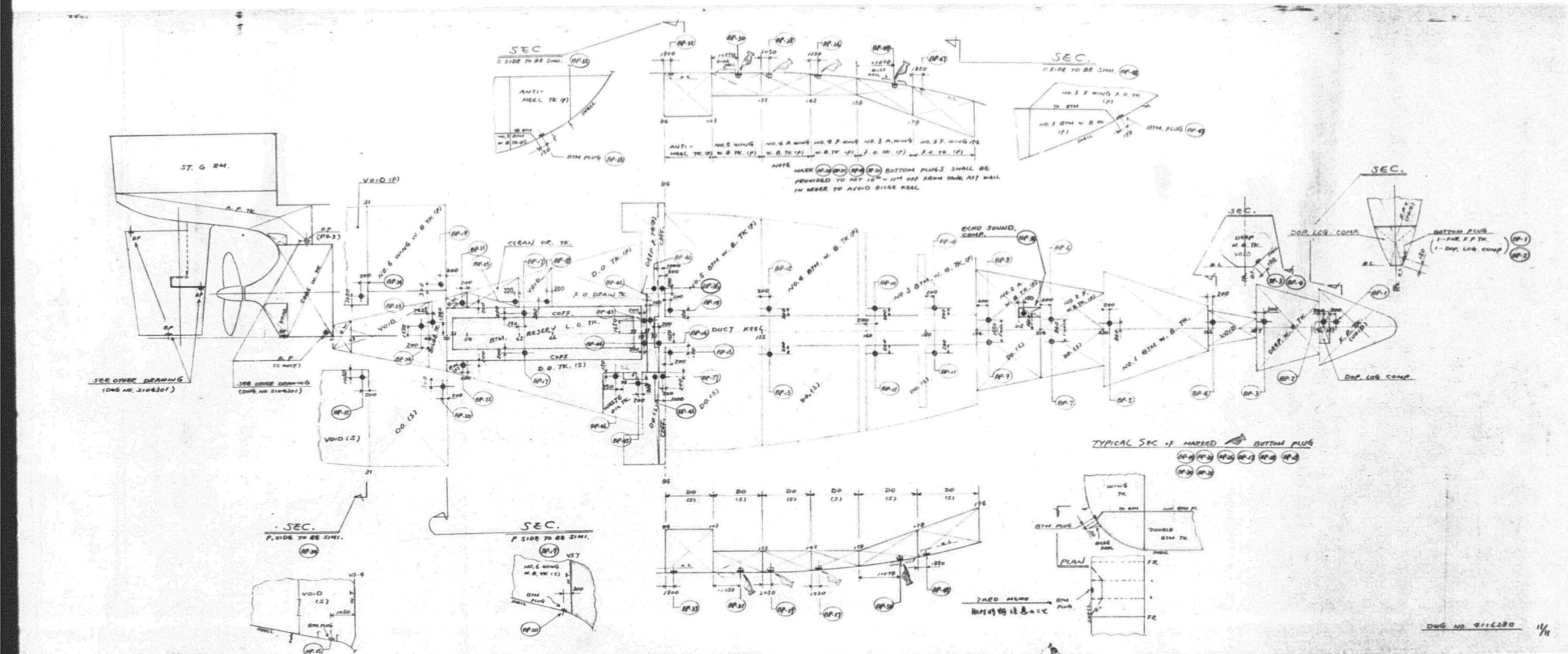
DWG NO 4116280 9/11



MARK	ENGRAVED NAME	THICK. OF SHELL PL. (T)	QUANT.	DEPTH OF DRAIN WAY (D)	SPANNER HOLE	MATERIAL OF SEAT
BP-40	DEEP F. O. TK. (P)	26.0	1	12	HEX. HOLE	SF50A (EQ. ASTM A105)
41	DEEP F. O. TK. (S)	26.0	1	12	↓	↓
42	F. O. DRAIN TK.	29.0	1	9	↓	↓
43	D. O. TK. (P)	29.0	1	9	↓	↓
44	D. O. TK. (S)	29.0	1	9	↓	↓
45	WASTE OIL TK.	26.0	1	12	↓	↓
46	WASTE OIL TK.	24.0	1	14	↓	↓
47	NO. 3 F. WING F. O. TK. (P)	32.0	1	—	↓	↓
48	NO. 3 F WING F. O. TK. (S)	32.0	1	—	↓	↓
49	NO. 3 A. WING F. O. TK. (P)	32.0	1	—	↓	↓
BP-50	NO. 3 A. WING F. O. TK. (S)	32.0	1	—	HEX HOLE	SF50A (EQ. ASTM A105)

TOTAL QUANT. = 11 SET (FOR OIL TK.)

DWG NO 4116280 10/11


ST. G RM.
SEC.
SEC.
SEC.
SEC.
SEC.
TYPICAL SEC of MARKED BOTTOM PLUG
ECHO SOUND COMP.
DUCT KEEL
DOP. LOG COMP.
SEE OTHER DRAWING (DWG NO. 2104301)
DWG NO 4116280

522

APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	8 FEB '86	OFTS/MES-175						

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO.,LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC.CHIEF
DATE (TEL 1230)

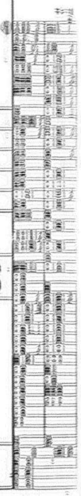
SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

KEY PLAN

コンテナー支持構造
CONTAINER SUPPORT CONSTRUCTION
(TYP.)

JOB NO. TS1323/24/25 — JOB CLASSIF. NO. B 07 — SCALE 1/20, 1/100 — LYKES REF. NO. 120502 — MITSUI DRAWING NO. 2100731

(18 SHEETS WITH COVER)



PLAN RECORD			
ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		PREPARED FOR S.NO.1323 AS FINISHED PLAN. MADE APPLICABLE TO S.NO.1324 AND S.NO.1325.	NOV.28.'86

DWG.NO. 2100731-1

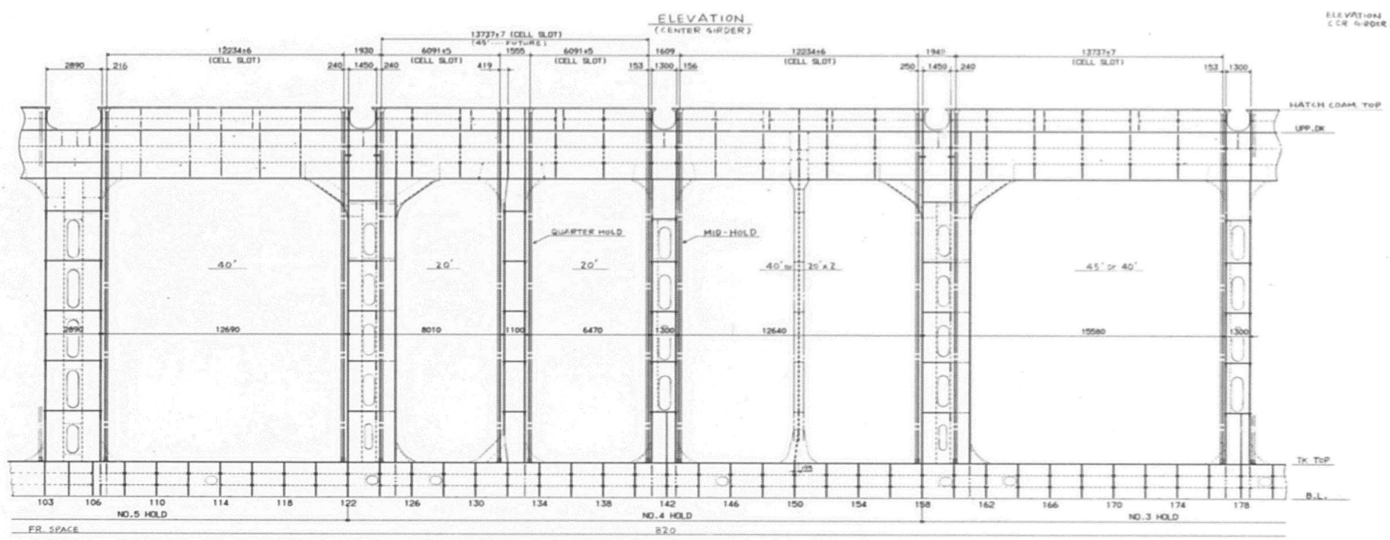
NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.
5. REFER TO "MID SHIP SECTION (DWG NO. 2100011)" FOR MATERIALS & SYMBOLS EXCEPT SPECIFIED.

備 考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は"構造詳細図（図番2100811）"を参照のこと。
4. 溶接脚長については，特記の他は"溶接脚長表（図番2100832）"を参照のこと。
5. 材料および符号については，特記の他は"中央切断図（図番2100011）"を参照のこと。

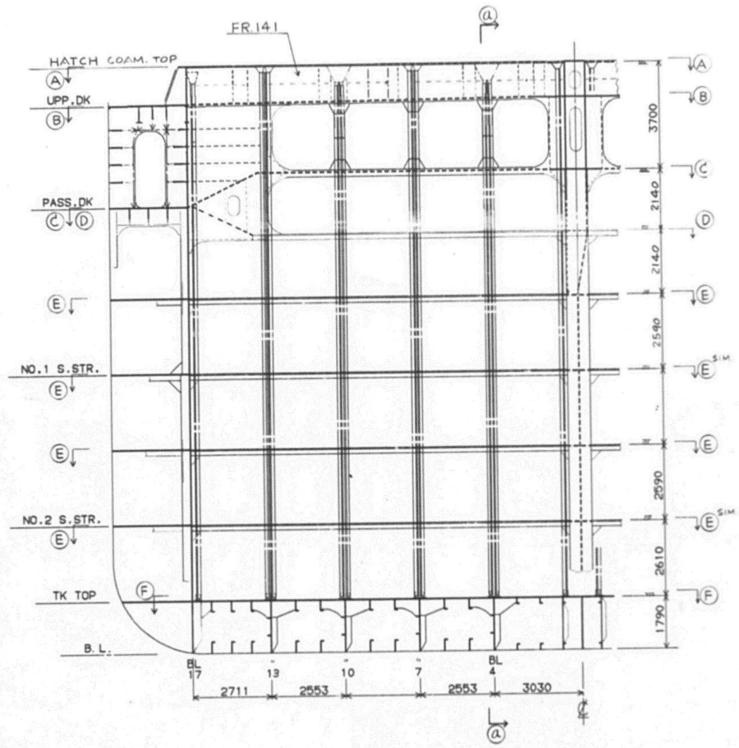
2100731-2


ELEVATION
(CENTER GIRDER)
ELEVATION
(CR GIRDER)
13737x7 (CELL SLOT)
(45' FUTURE)
12234x6
(CELL SLOT)
6091x5
(CELL SLOT)
13737x7
(CELL SLOT)
2890
216
240
1930
1450
419
1555
153
1609
1300
156
250
1940
HATCH COAM. TOP
UPP. DK
QUARTER HOLD
MID-HOLD
40'
20'
40' or 20' x 2
45' or 40'
12690
8010
1100
6470
12640
15580
TK TOP
B.L.
103
106
110
114
118
122
126
130
134
138
142
146
150
154
158
162
166
170
174
178
NO.5 HOLD
NO.4 HOLD
NO.3 HOLD
FR. SPACE
820

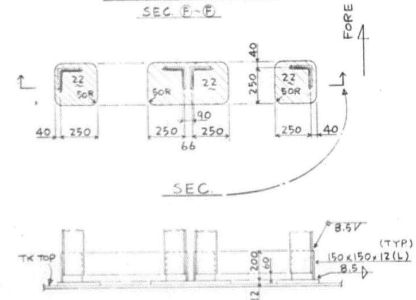
2100731

MID-HOLD SEC.
(TYP.) (FR.141)

MID-HOLD SEC. (TYP.)



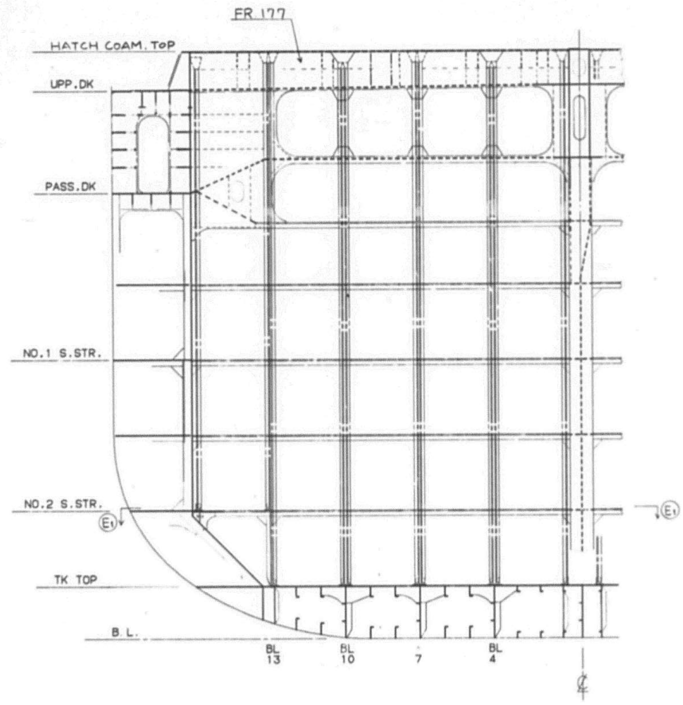
DBL. PL. (ON TK TOP)
SEC. E~E



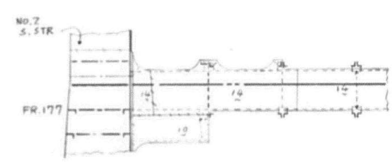
2100731 -4/

MID-HOLD SEC.
(FR.177)

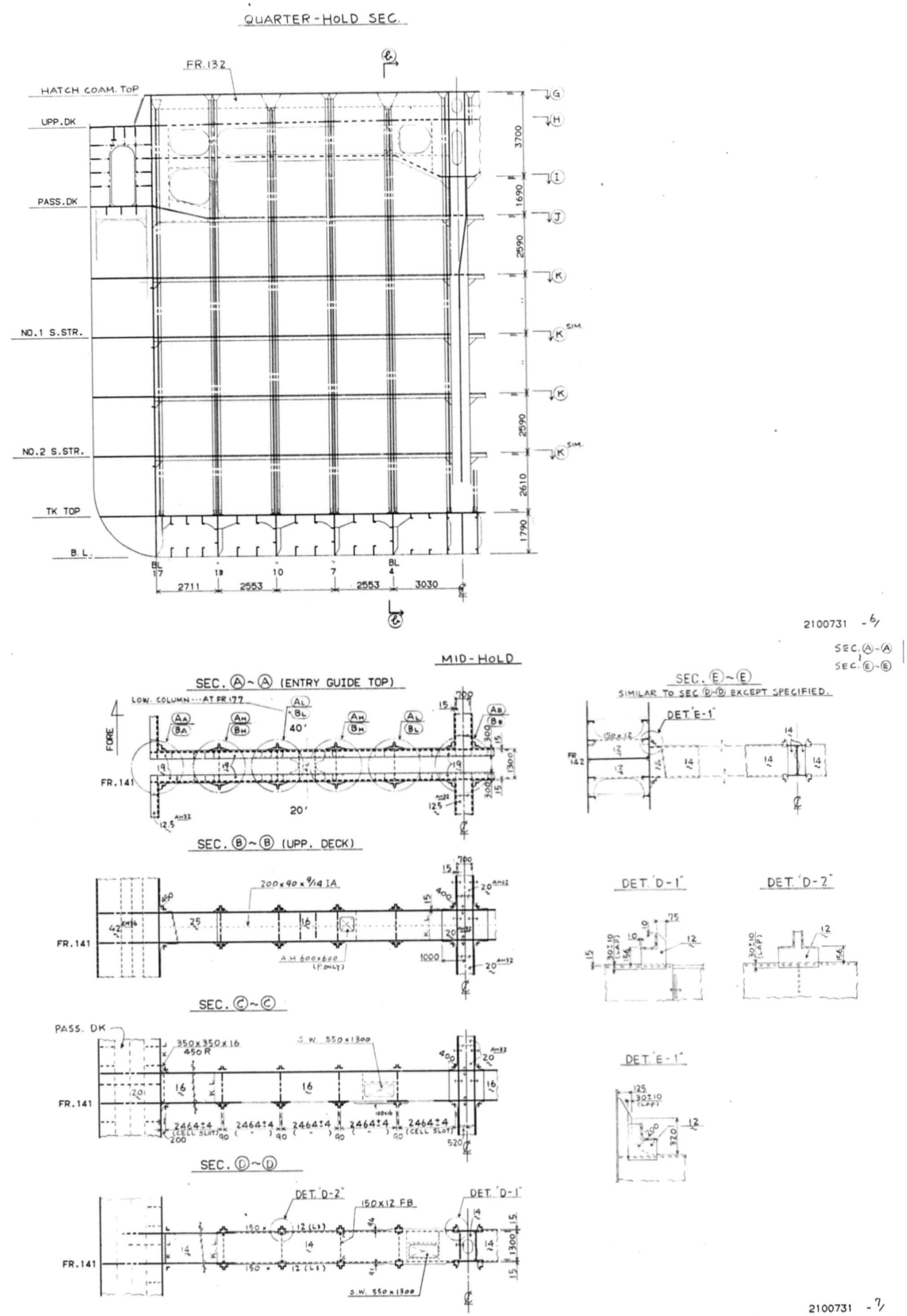
MID-HOLD SEC.

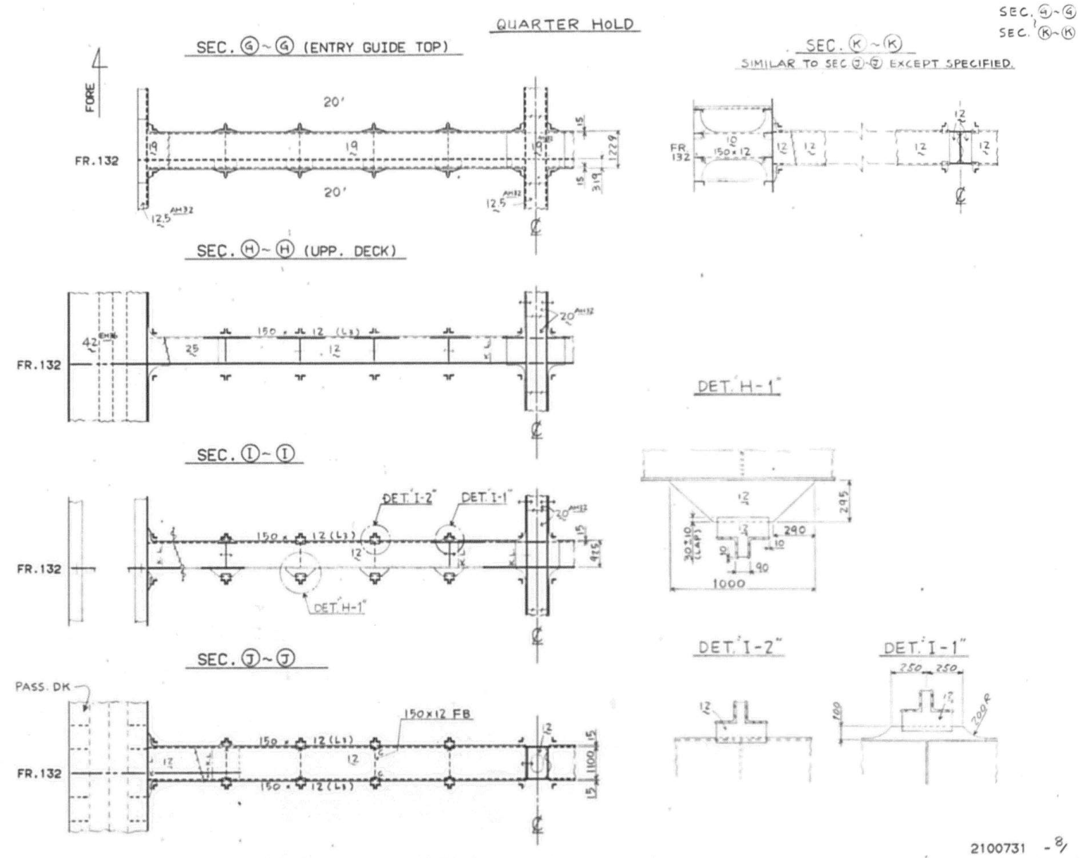


SEC. E1~E1

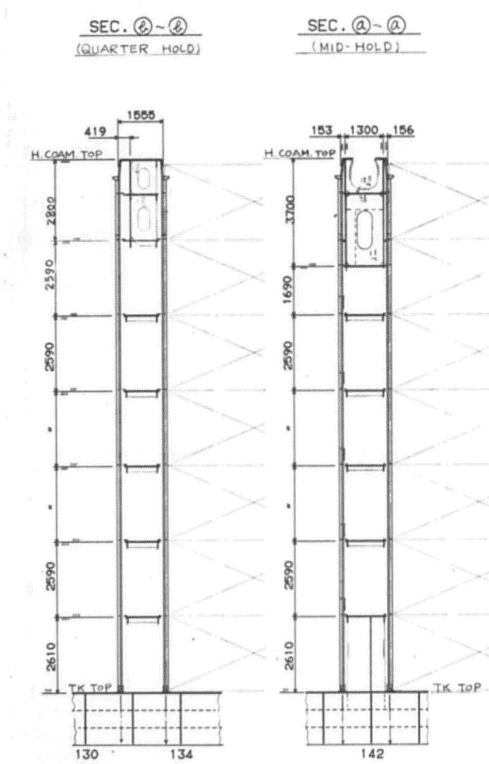


2100731 -5/

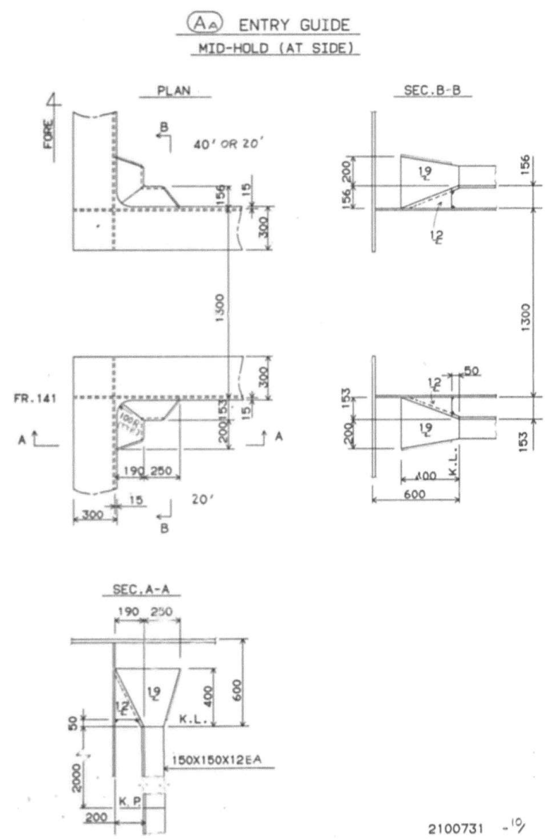

QUATER HOLD SEC. (FR.132)
QUARTER-HOLD SEC.
FR.132
HATCH COAM. TOP
UPP.DK
PASS.DK
NO.1 S.STR.
NO.2 S.STR.
TK TOP
B.L.
3700
1690
2590
2590
2610
1790
2711
2553
2553
3030
MID-HOLD
SEC. A~A (ENTRY GUIDE TOP)
LOW. COLUMN ··· AT FR.177
FORE
FR.141
40'
20'
SEC. B~B (UPP. DECK)
200x90x9/14 IA
A.H. 600x600 (P. ONLY)
SEC. C~C
PASS. DK
350x350x16
450 R
S.W. 550x1300
SEC. D~D
DET. D-2
150x12 FB
DET. D-1
S.W. 550x1300
SEC. E~E
SIMILAR TO SEC D-D EXCEPT SPECIFIED.
DET. E-1
DET. D-1
DET. D-2
DET. E-1
2100731 -6/
SEC. A~A
SEC. E~E
2100731 -7/
526



2100731 -8/

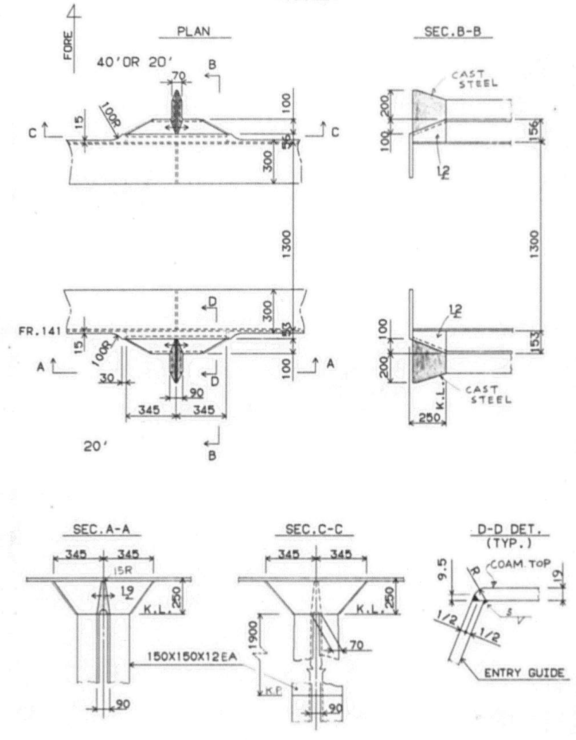


2100731 -9/



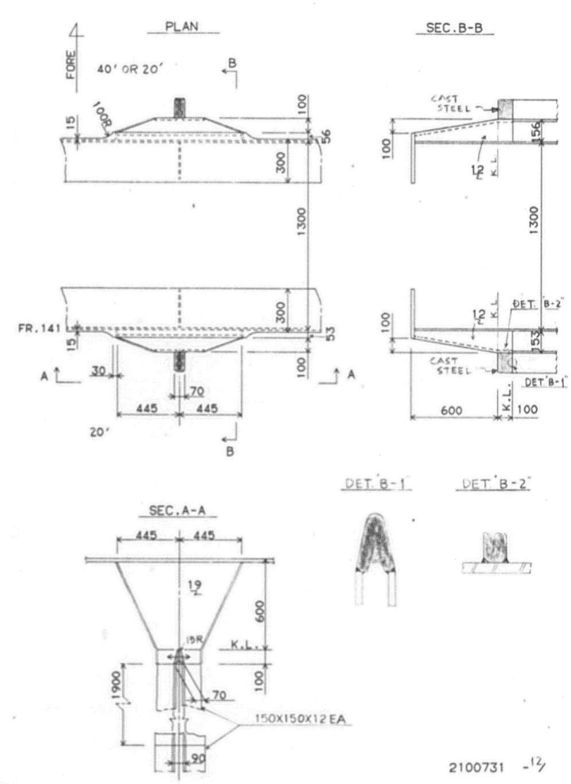
2100731 -10/

(AH) ENTRY GUIDE
MID-HOLD



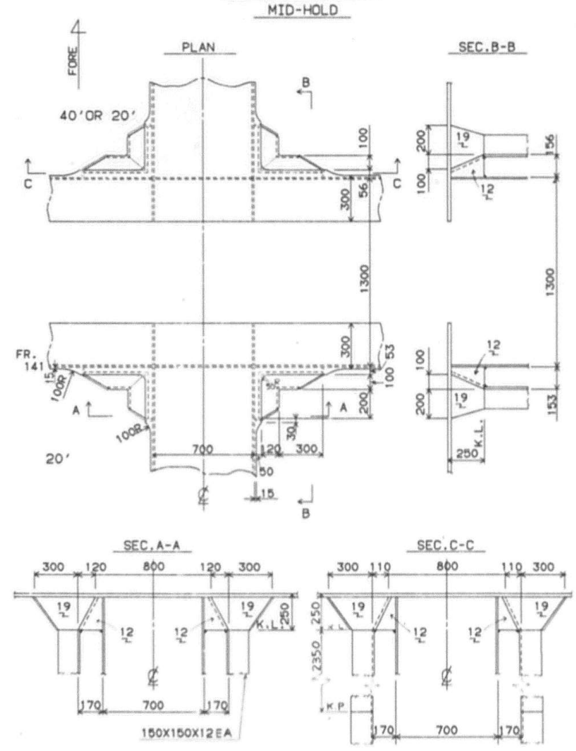
2100731 -11/

(AL) ENTRY GUIDE
MID-HOLD



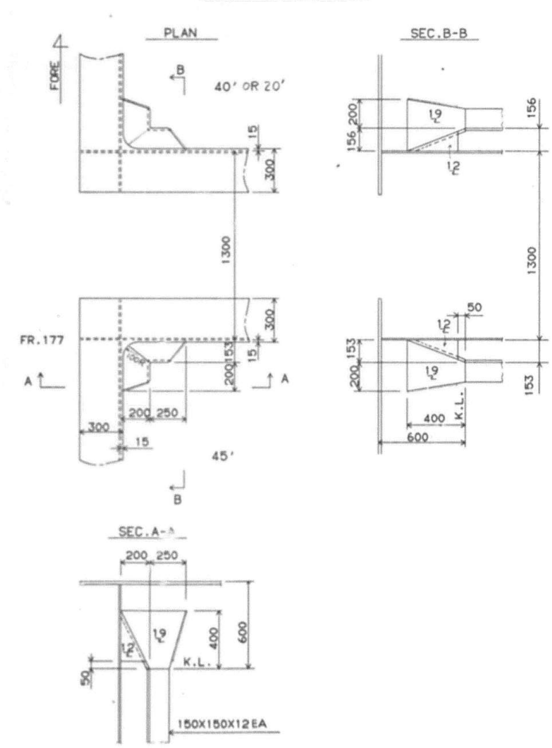
2100731 -12/

(AB) ENTRY GUIDE
MID-HOLD

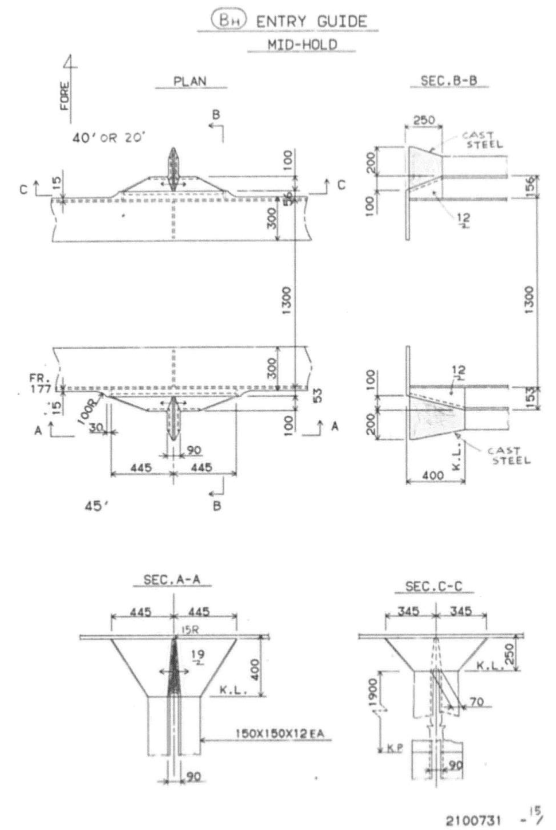


2100731 -13/

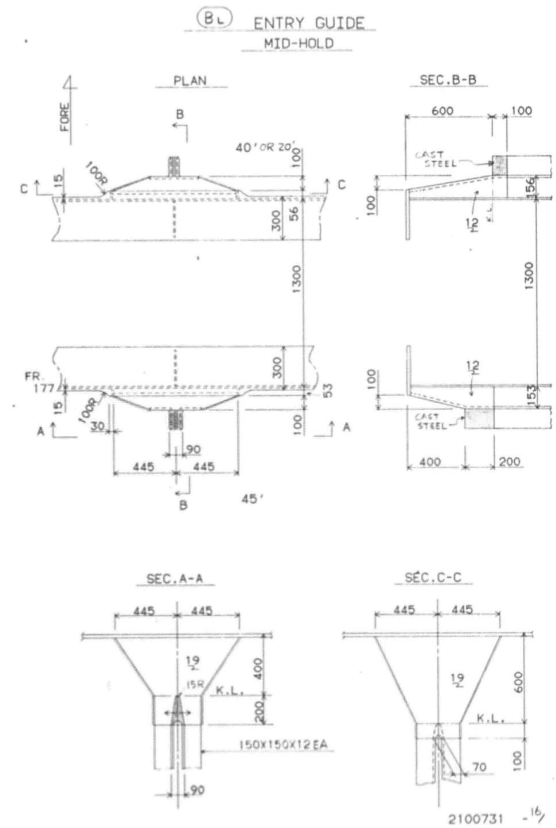
(BA) ENTRY GUIDE
MID-HOLD (AT SIDE)



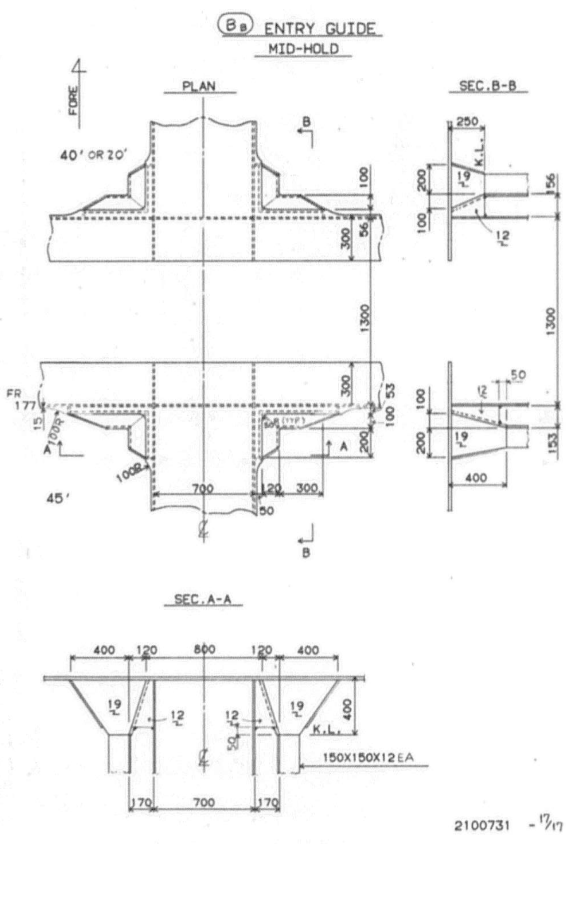
2100731 -14/



BH ENTRY GUIDE
MID-HOLD
PLAN
SEC.B-B
SEC.A-A
SEC.C-C
FORE
40' OR 20'
45'
CAST STEEL
K.L.
150X150X12 EA
FR. 177
2100731 - 15/



BL ENTRY GUIDE
MID-HOLD
PLAN
SEC.B-B
SEC.A-A
SEC.C-C
FORE
40' OR 20'
45'
CAST STEEL
K.L.
150X150X12 EA
FR 177
2100731 - 16/



BB ENTRY GUIDE
MID-HOLD
PLAN
SEC.B-B
SEC.A-A
FORE
40' OR 20'
45'
K.L.
150X150X12 EA
FR 177
2100731 - 17/17

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	11 JUN '86	OFTY/MES-479			11 AUG '86	T-8-2		
1ST PART REV	7 AUG '86	OFTY/MES-817			17 SEP '86	T-8-2		
2ND PART REV	28 JUL '86	TAM/24			17 SEP '86	T-8-2		
3RD PART REV	11 AUG '86	TAM/32			4 OCT '86	T-8-2		
4TH PART REV	16 SEP '86	TAM/67			9 OCT '86	T-8-2		

APPROVAL OF OWNER & REGULATORY BODIES

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME

MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT
MANAGER
STRUCTURE DESIGN SEC.
SEC. CHIEF

SHIP'S NO. 1325 — SHIP'S NAME **TILLIE LYKES**

コンテナー支持構造(オ1倉)
CONT. SUPPORT CONST. (NO.1 H.)

DATE (TEL. 2230)
JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 120503 — MITSUI DRAWING NO. 2107311
JOBCLASSIF. NO.

(37 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		"PREPARED FOR S.NO.1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO.1324 AND S.NO.1325."	NOV. 28. '86
		FOR APL MODIFICATIONS, THIS DRAWING WAS MODIFIED PARTLY, AND THESE WERE SHOWN ON 'MODIFICATION PLAN OF NO.1 HOLD (AFT) CONT. SUPP. (40'/45' → 40')" (MES DWG NO. 2107321 U PAGE 5~13, 15~34)	

DWG. NO. 2107311-1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備 考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は
   '構造詳細図(図番2100811)'を参照のこと。
4. 溶接脚長については，特記の他は
   '溶接脚長表(図番2100832)'を参照のこと。

2107311-2/

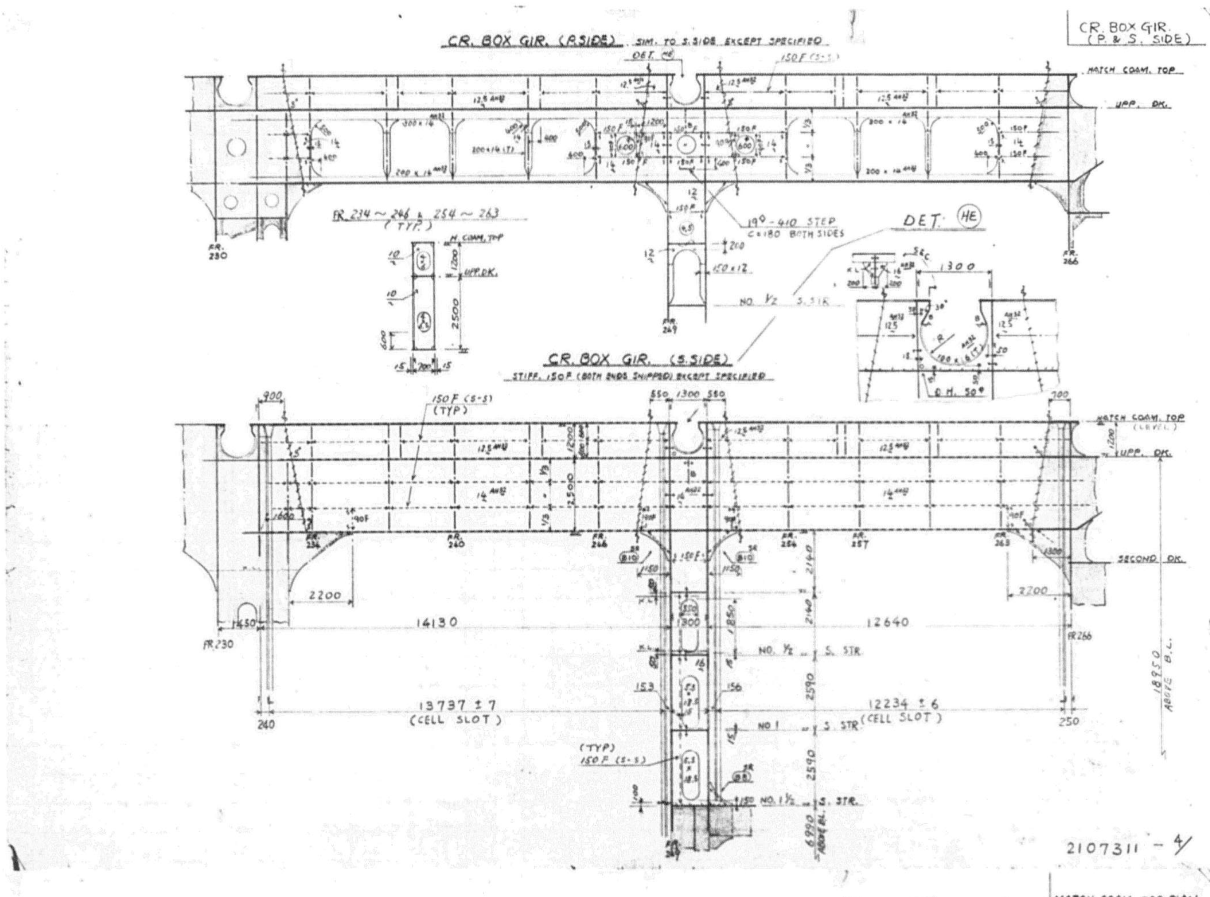
MATERIAL LIST

INFORMATION FOR MES ONLY

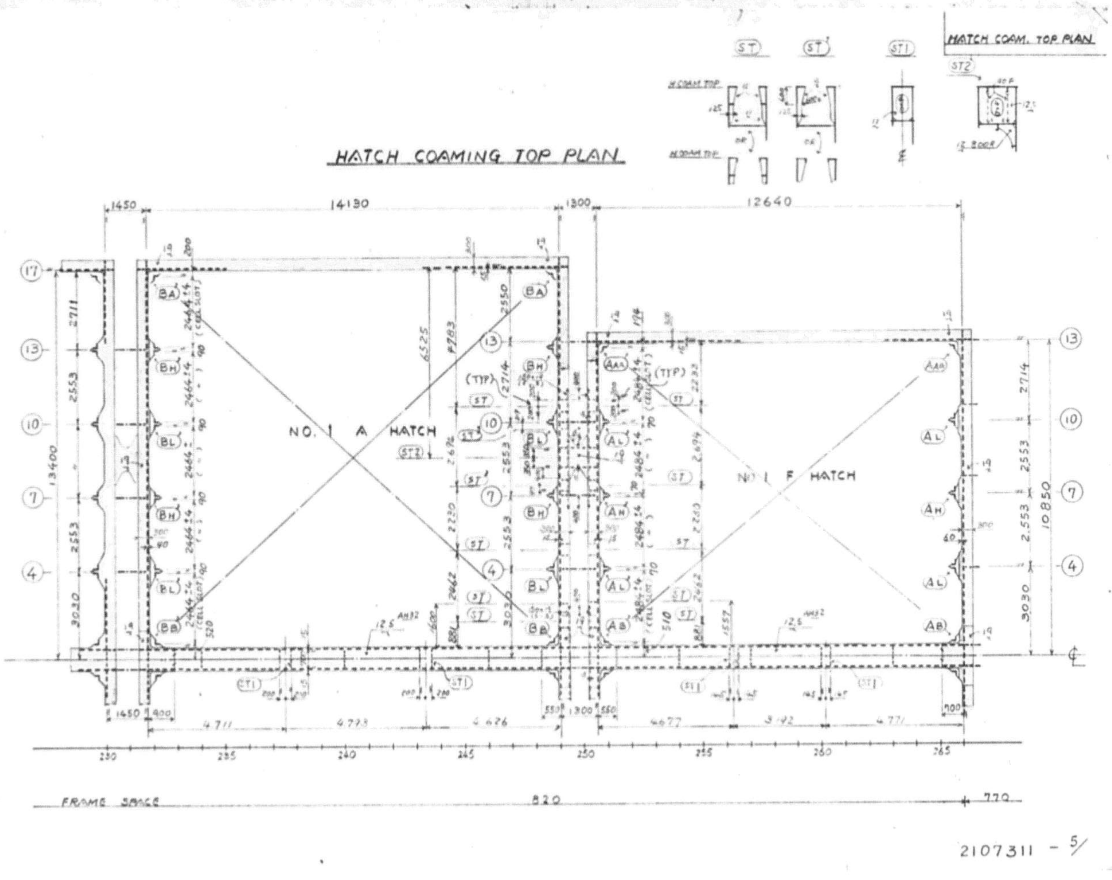
	ITEM	MTERIAL	NO	WT (TON) ABT.	SHOP	ARR. NO.
②	ENTRY GUIDE	(STEEL CASTING) SC42 (MAX. CARBON 0.20%)	4		1. 船工	
③	〃	〃	8		〃	
④	〃	〃	8		〃	
⑤	〃	〃	8		〃	
○						

2107311-3/

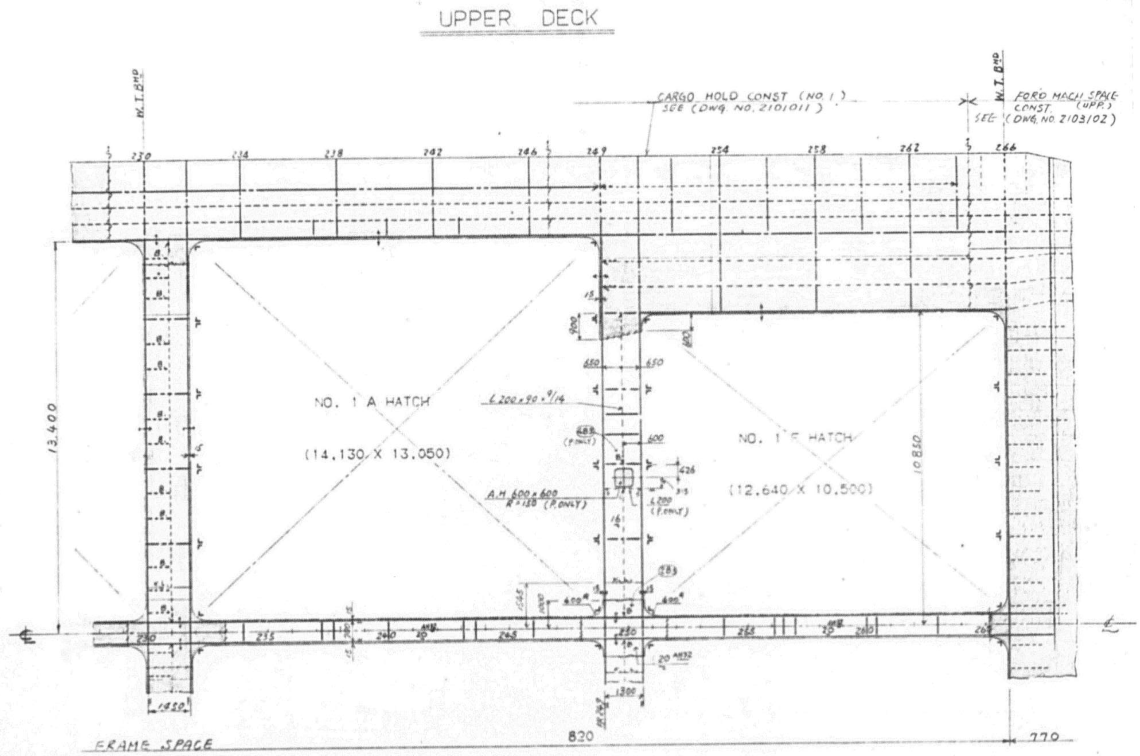
530



CR. BOX GIR. (P. & S. SIDE)
CR. BOX GIR. (P.SIDE) SIM. TO S.SIDE EXCEPT SPECIFIED
DET. HE
CR. BOX GIR. (S.SIDE)
STIFF. 150F (BOTH ENDS SNIPPED) EXCEPT SPECIFIED
HATCH COAM. TOP
UPP. DK.
SECOND DK.
14130
12640
13737 ± 7 (CELL SLOT)
12234 ± 6 (CELL SLOT)
18950 ABOVE B.L.
2107311 - 4/

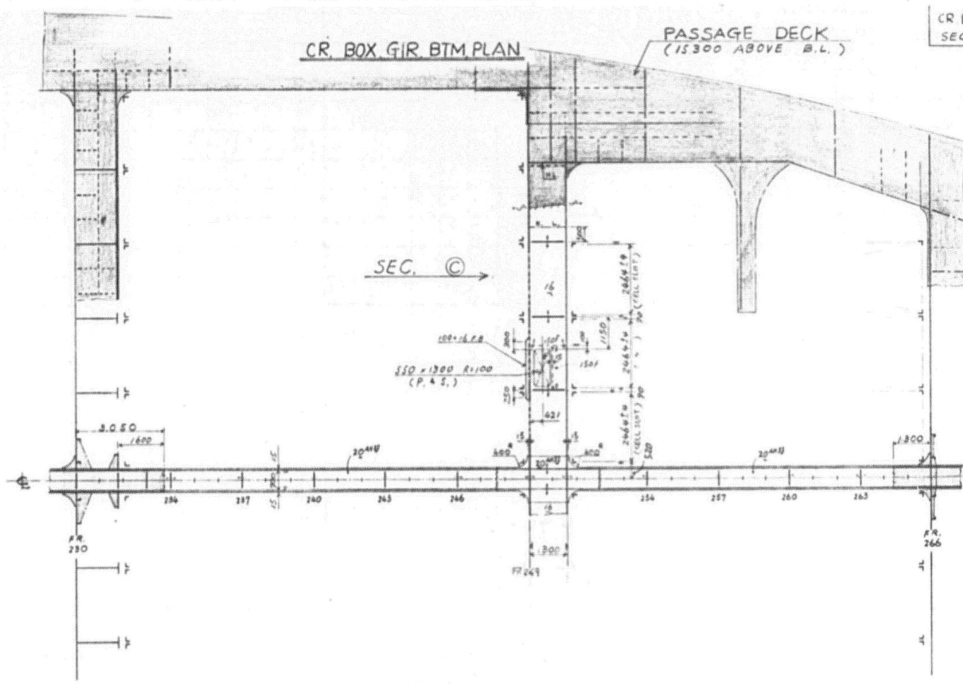


HATCH COAM. TOP PLAN
HATCH COAMING TOP PLAN
NO. 1 A HATCH
NO. 1 F HATCH
14130
12640
13400
10850
FRAME SPACE
820
770
2107311 - 5/

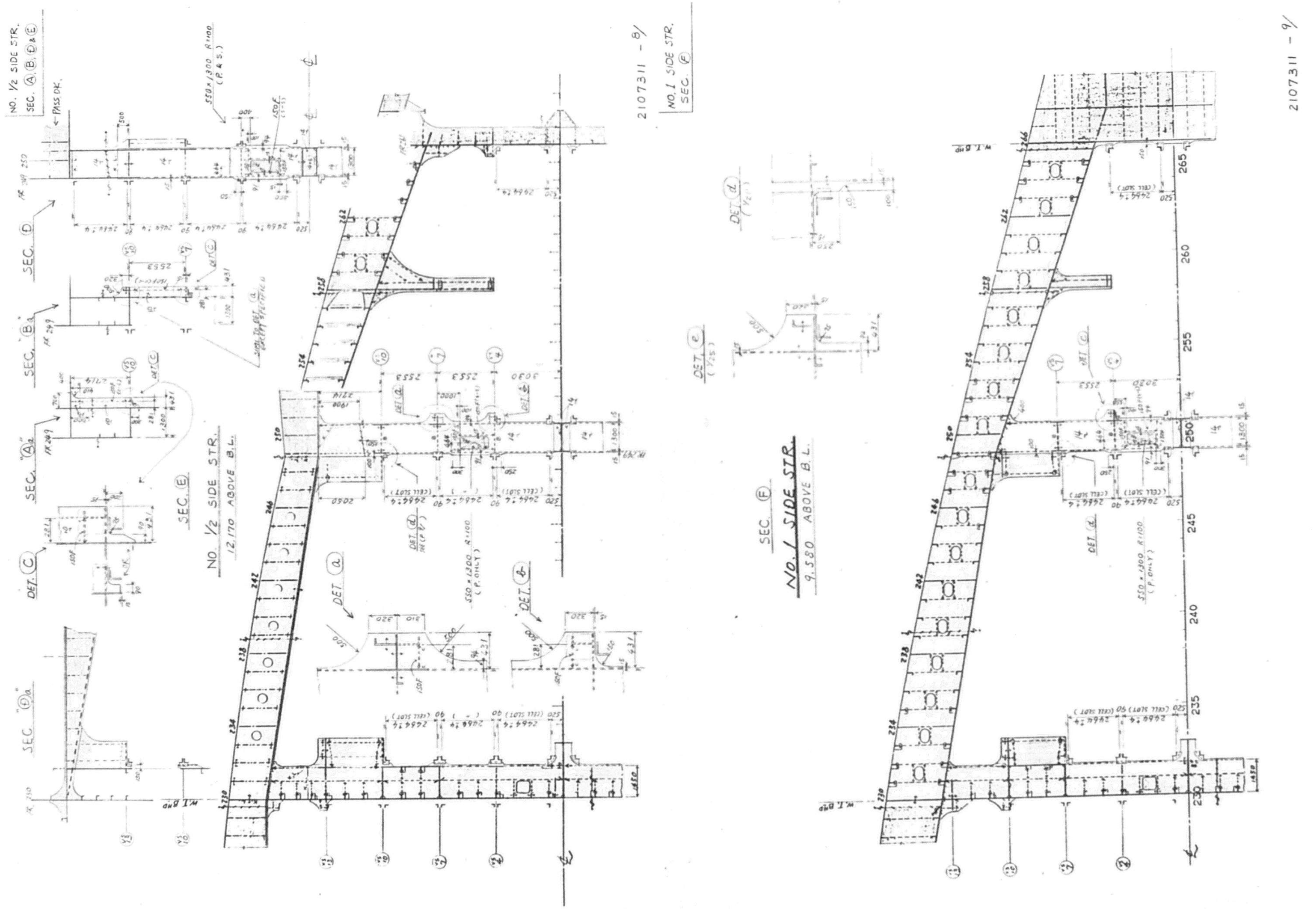


2107311 – 6/

CR. BOX GIR. BTM. PLAN SEC. ©



2107311 – 7/



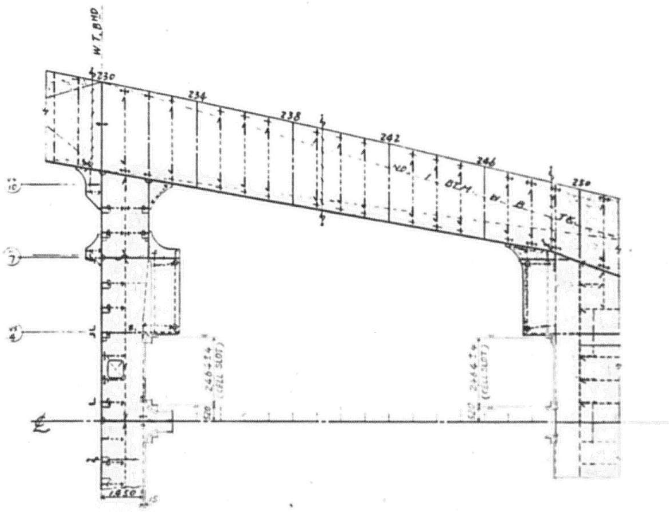
NO. 1/2 SIDE STR.
12,170 ABOVE B.L.
SEC. E
SEC. D
DET. a
DET. b
NO. 1 SIDE STR.
9,580 ABOVE B.L.
SEC. F
DET. d
DET. e
2107311 - 8/
2107311 - 9/

533

SEC. (4)

NO. 1 1/2 SIDE STR.

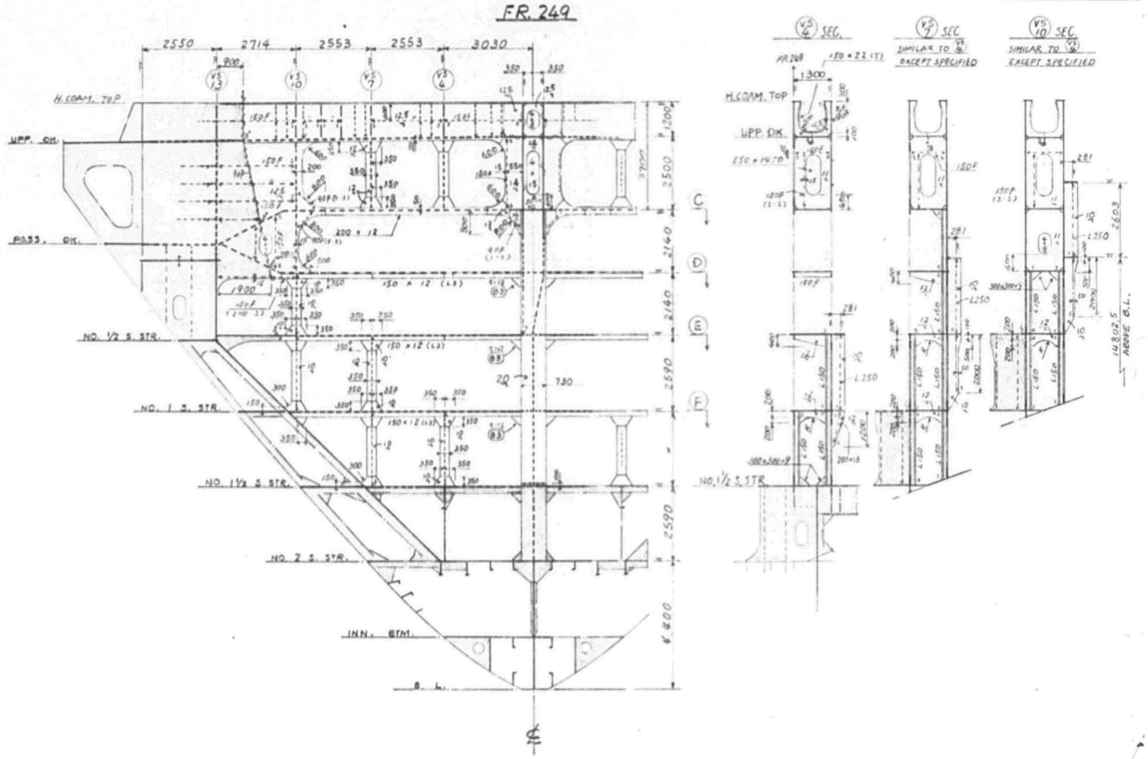
6990 ABOVE B.L.



2107311 - 10/

FR. 249
SEC. (V5/4), (V5/7) & (V5/10)

FR. 249



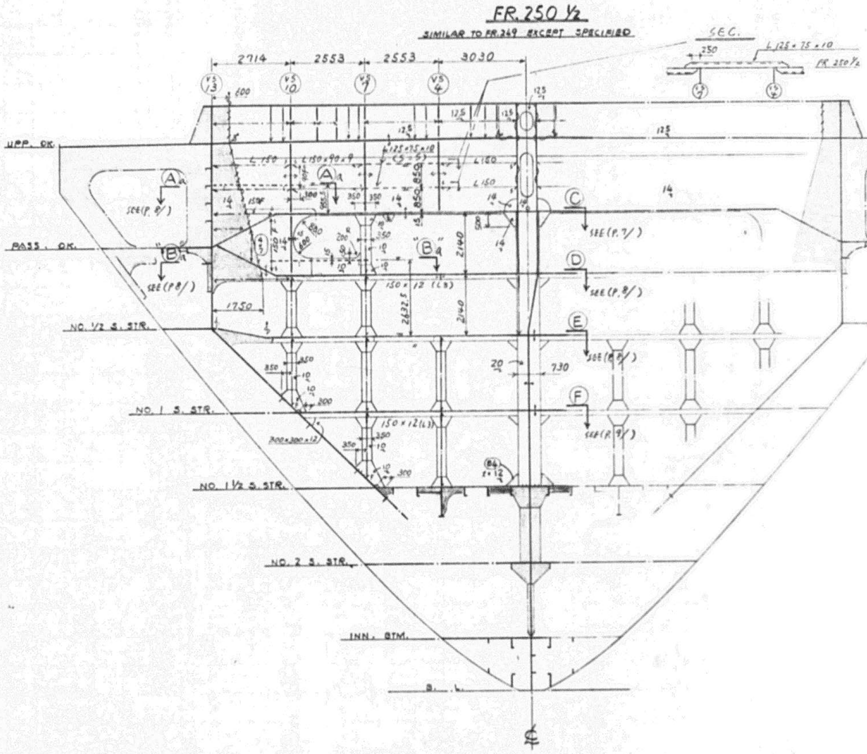
2107311 - 11/

534

FR. 250½

FR. 250 ½

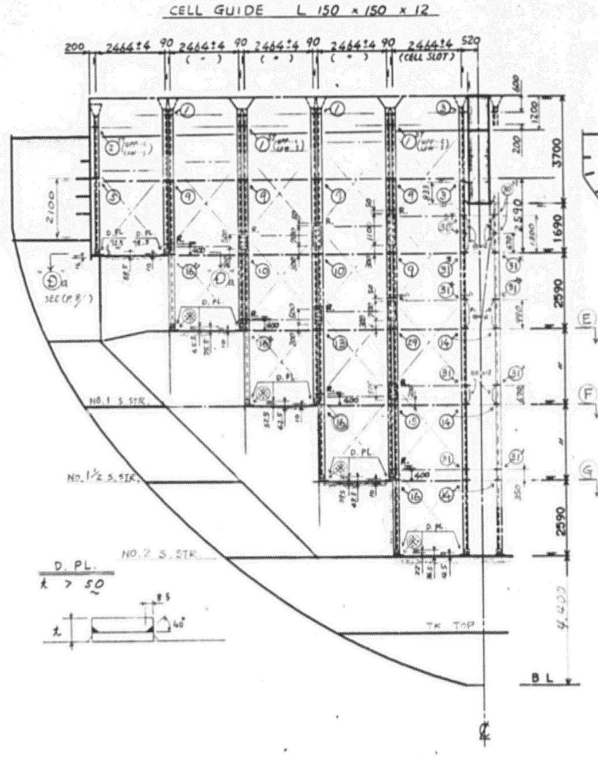
SIMILAR TO FR. 249 EXCEPT SPECIFIED



2107311 - 12/

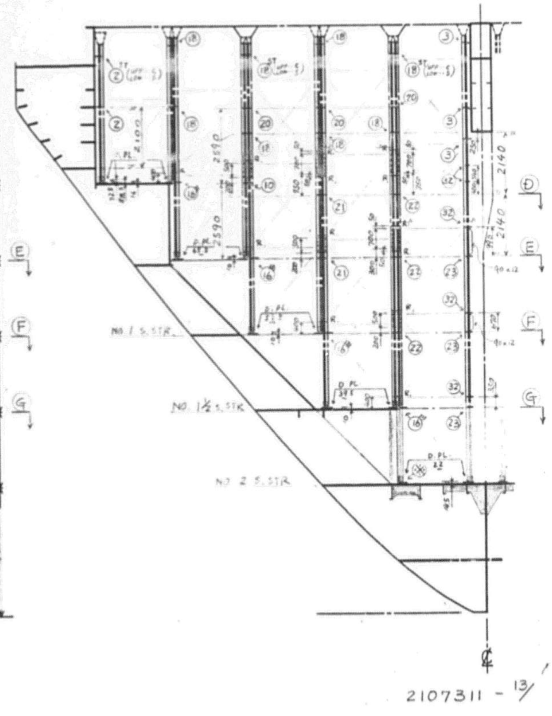
FR. 231 FORE

CELL GUIDE L 150 × 150 × 12



FR. 249 AFT

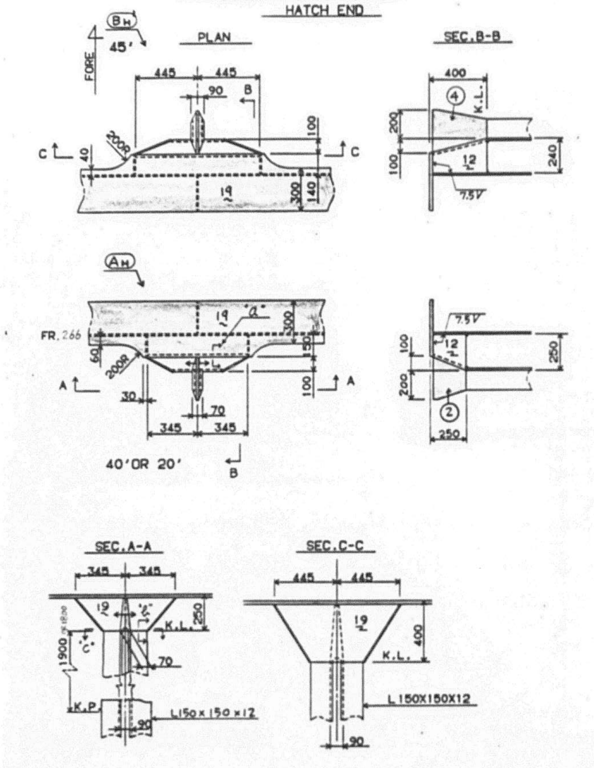
SIMILAR TO FR. 231 FORE EXCEPT SPECIFIED



2107311 - 13/

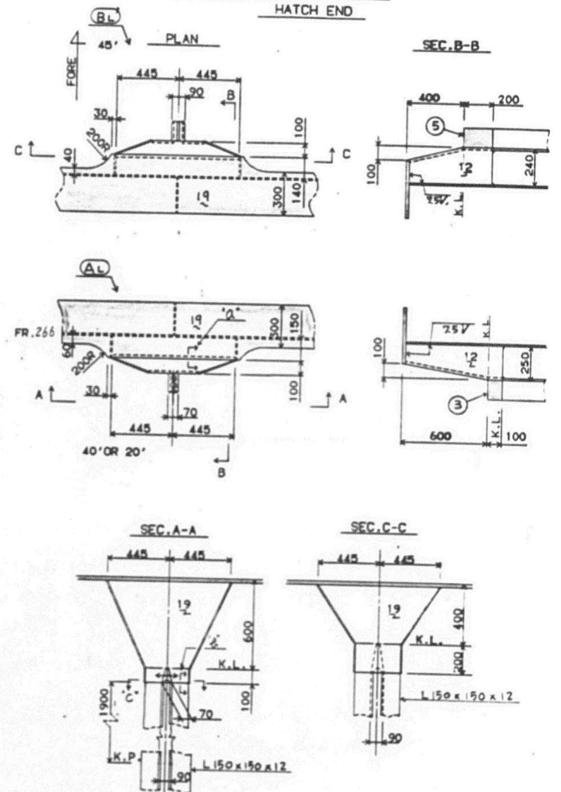
535

(AH), (BH) ENTRY GUIDE
HATCH END



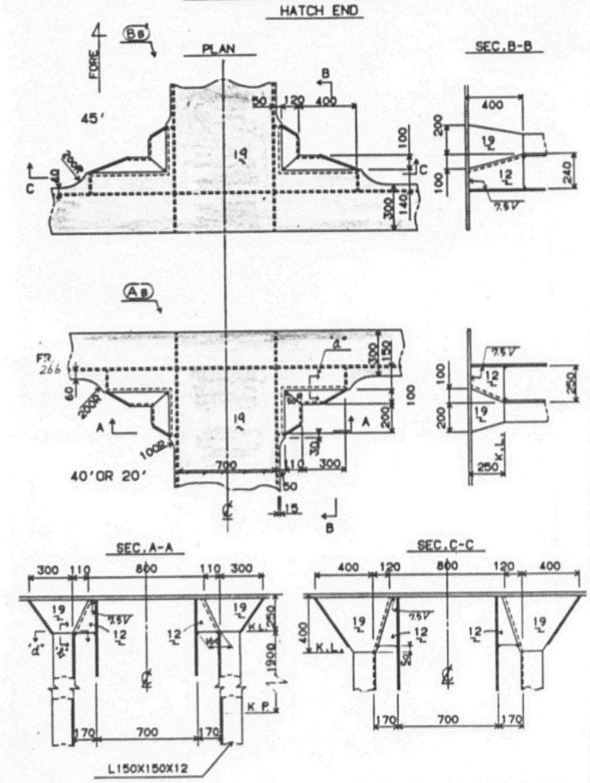
2107311 -17

(AL), (BL) ENTRY GUIDE
HATCH END



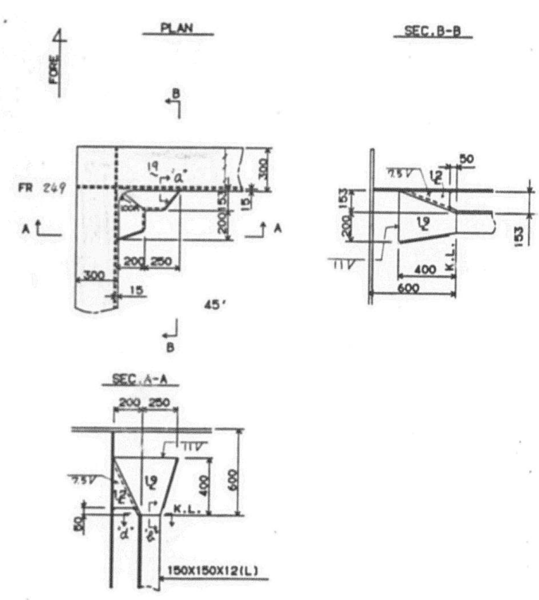
2107311 -18

(AB), (BB) ENTRY GUIDE
HATCH END



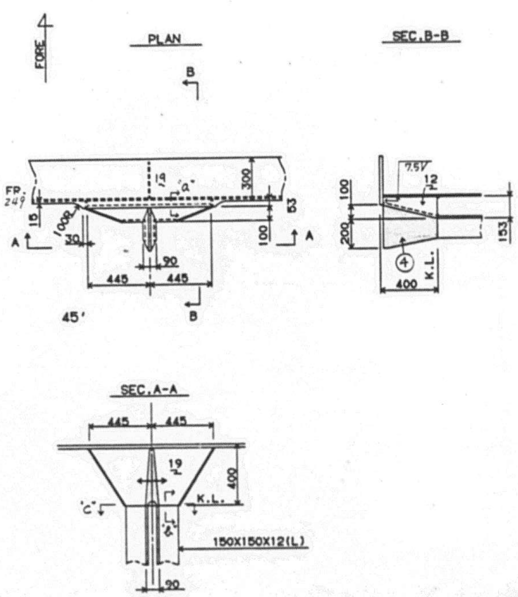
2107311 -19

(BA) ENTRY GUIDE
MID-HOLD (AT SIDE)



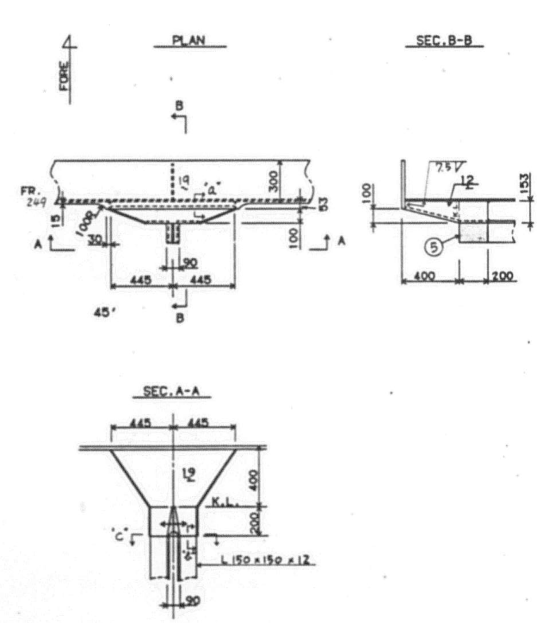
2107311 -20

(BH) ENTRY GUIDE
MID-HOLD



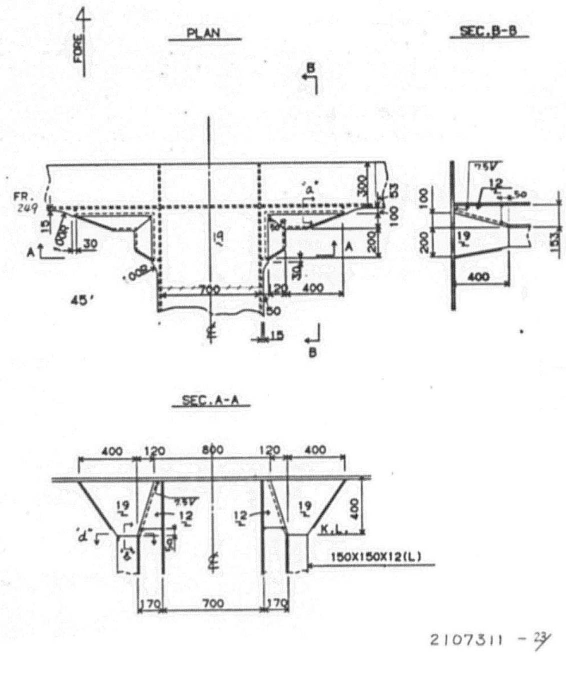
2107311 - 21/

(BL) ENTRY GUIDE
MID-HOLD



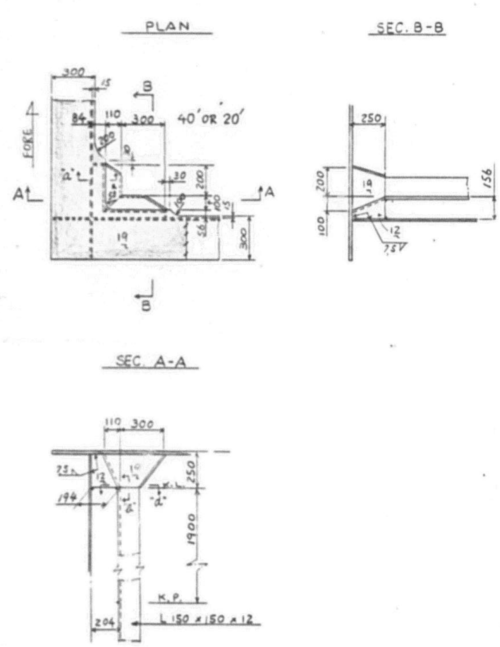
2107311 - 22/

(BB) ENTRY GUIDE
MID-HOLD



2107311 - 23/

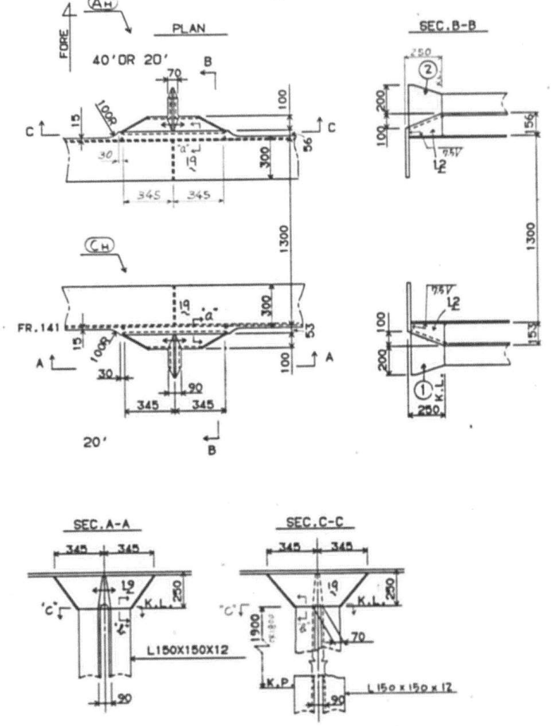
(AAa) ENTRY GUIDE
MID-HOLD (AT SIDE)



2107311 - 24/

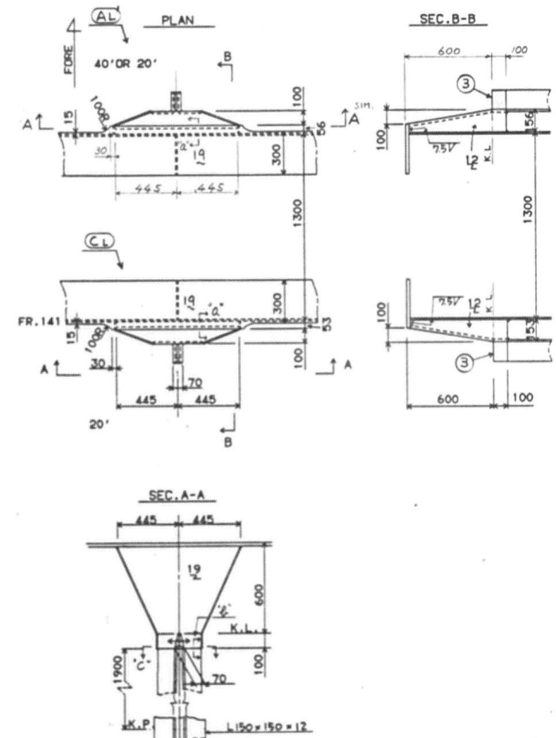
538

CH, AH ENTRY GUIDE
MID-HOLD



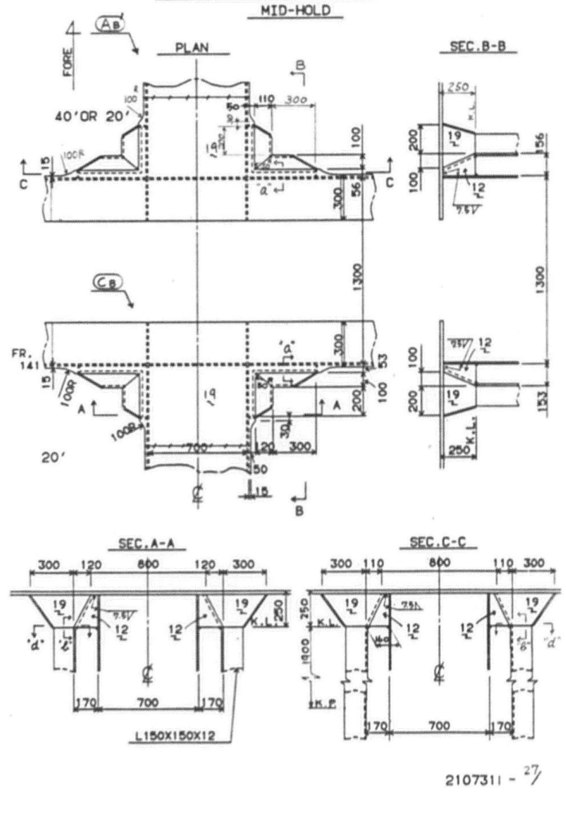
2107311 - 25

CL, AL ENTRY GUIDE
MID-HOLD



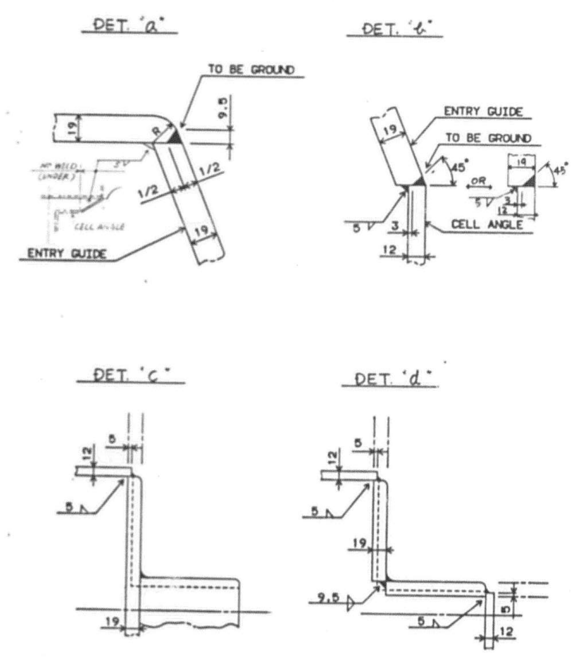
2107311 - 26

CB, AB ENTRY GUIDE
MID-HOLD

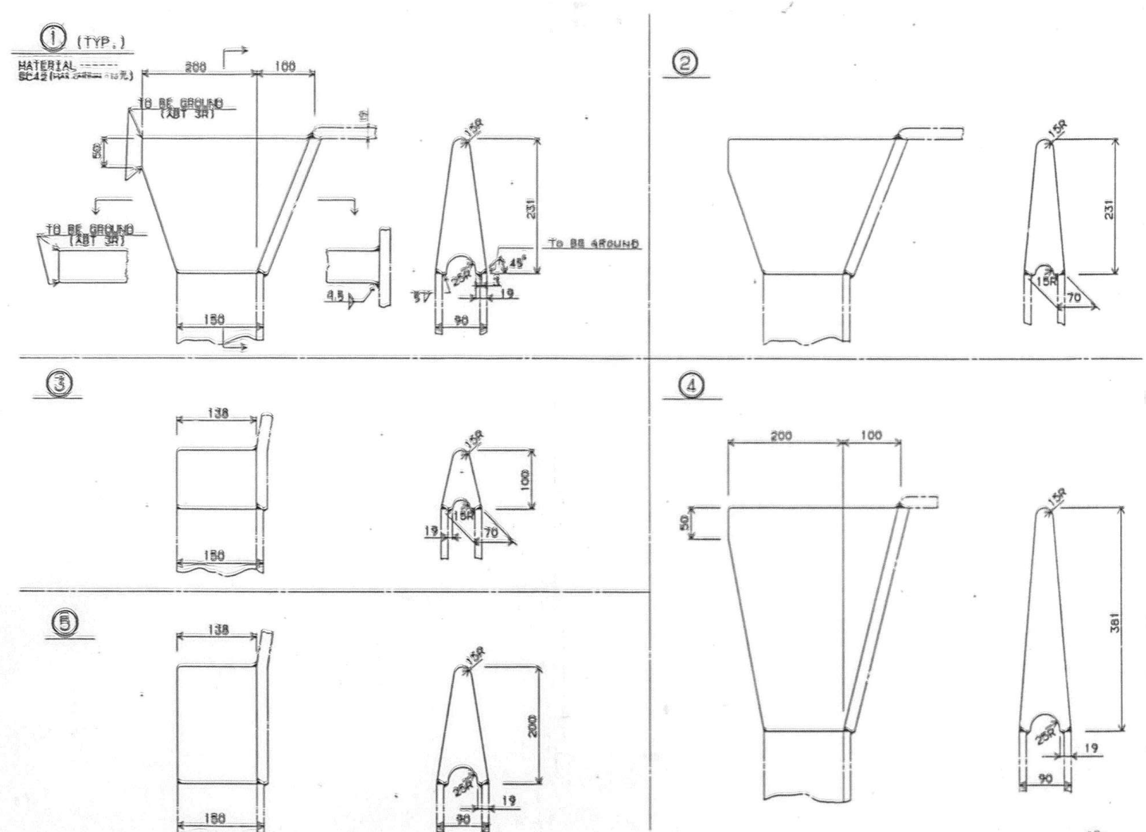


2107311 - 27

DETAIL OF ENTRY GUIDE



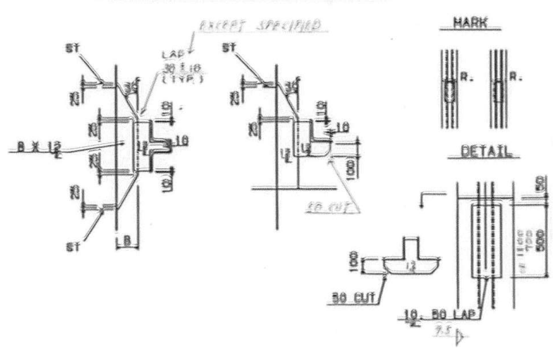
2107311 - 28



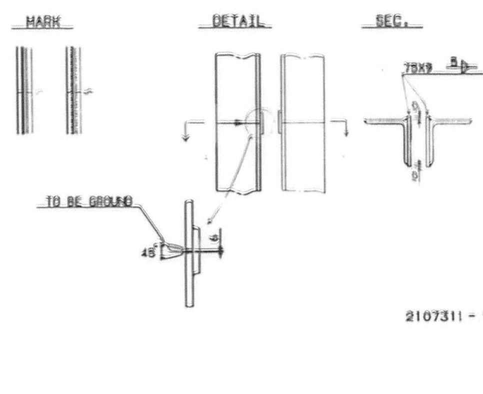
2107311 - 29/

TYPICAL CELL GUIDE RIB

1. WELD.---- 8 EXCEPT SPECIFIED.
2. LAP WELD---- 10 EXCEPT SPECIFIED
3. ST MARK STIFF.---- 90 X 9 F.B.(ST MARK TO BE FITTED.)
(BOTH ENDS CLIP EXCEPT SPECIFIED)

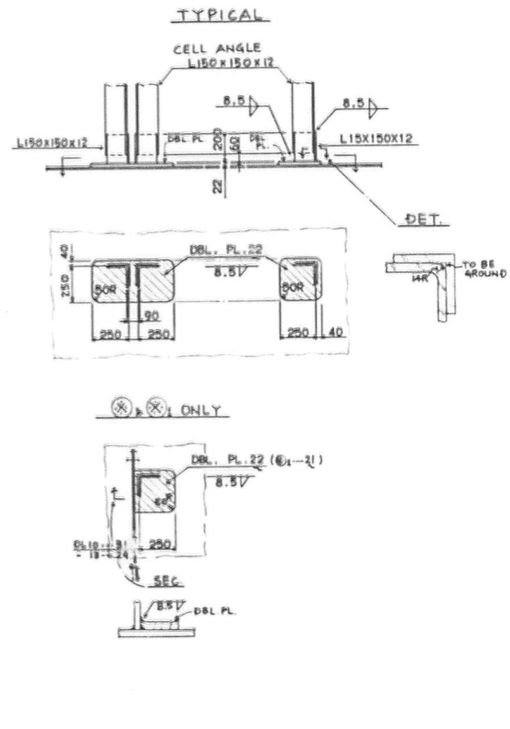


DETAIL OF CELL GUIDE CONNECTION



2107311 - 30/

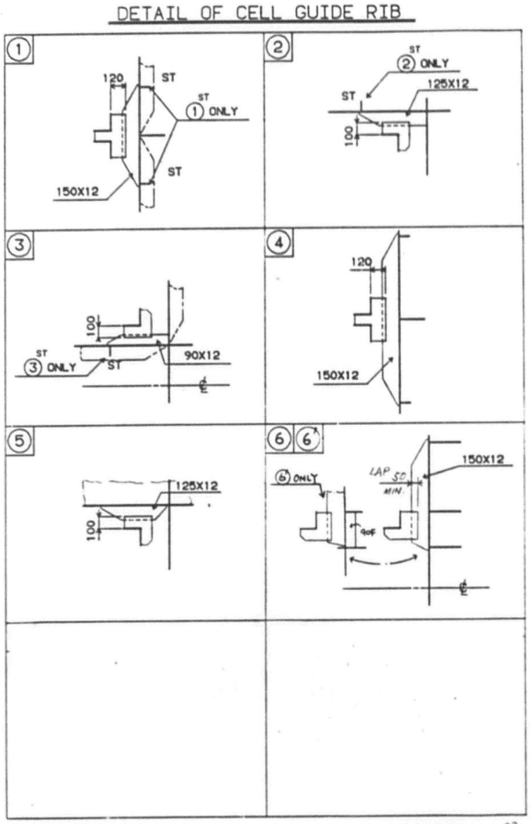
DETAIL OF LOW. END



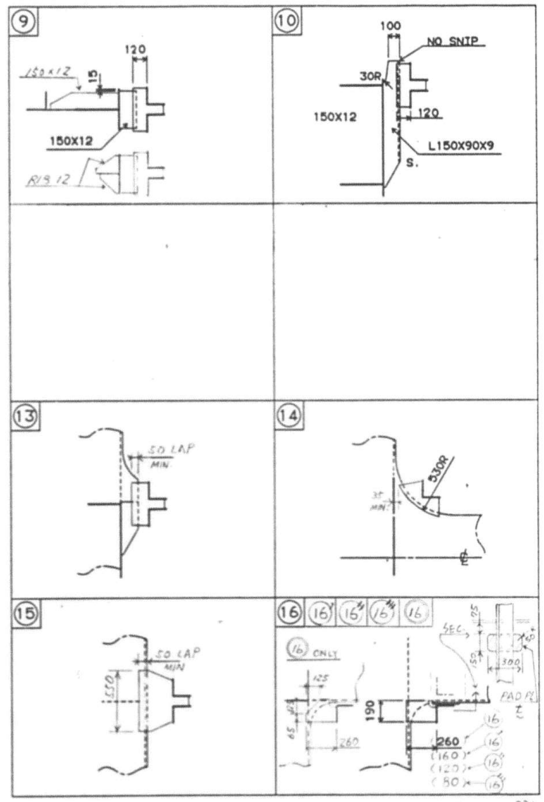
2107311 - 31/

540

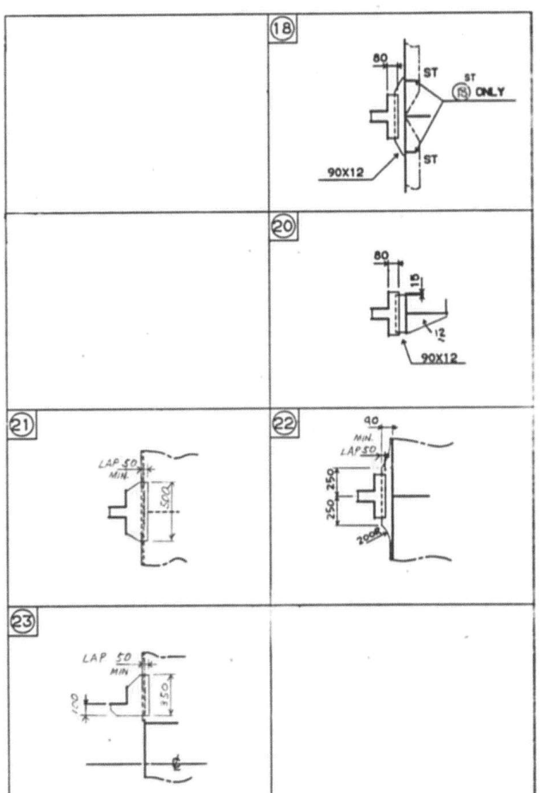
DETAIL OF CELL GUIDE RIB



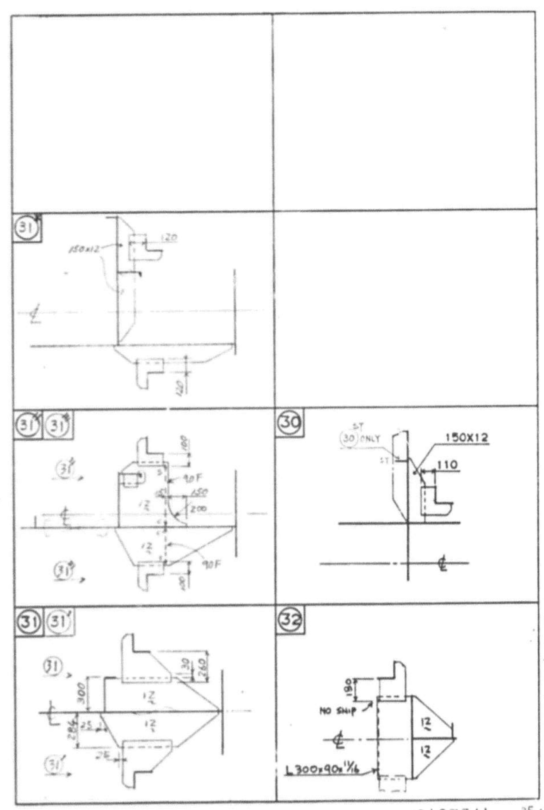
2107311 -32/



2107311 -33/

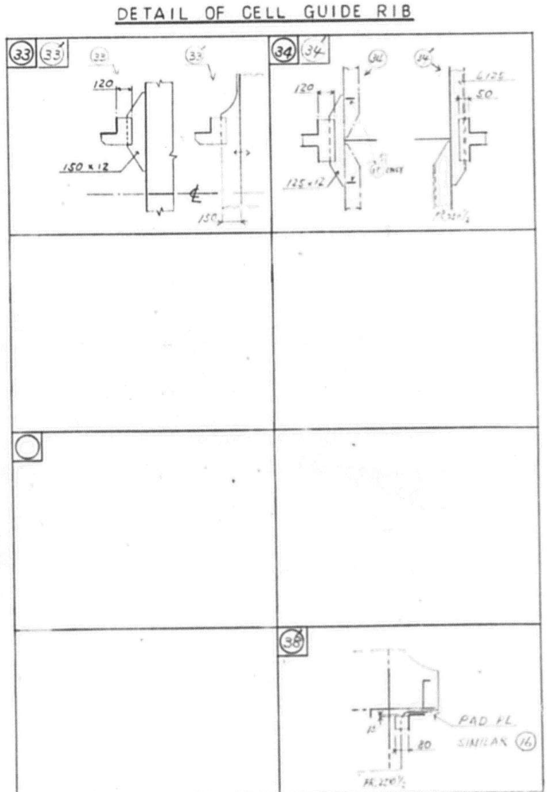


2107311 -34/



2107311 -35/

DETAIL OF CELL GUIDE RIB



Z107311 – 36/36

PLAN RECORD BY MHI

ALT. NO.	MARK	DESCRIPTION	DATE	BY
ORIG.		FOLLOWED MES ORIGINAL PLAN	MAY 16 '85	
-10	A	SUBMITTED FOR APPROVAL OF OWNER & ABS PREPARED TO MODIFICATION FOR MHI BUILDING SHIPS. 1. REARRANGED BLOCK BUTT JOINTS ON CENTER LINE LONGITUDINAL BOX GIRDER. 2. DELETED BLOCK BUTT JOINTS ON CENTER LINE LONGITUDINAL BOX GIRDER. 3. SHIFTED BLOCK BUTT JOINTS ON HORIZONTAL GIRDER & TRANS WEB OF CONTAINER SUPPORT CONSTRUCTION IN WAY OF LONGL BULKHEAD. 4. PENETRATED C.L. VERT. WEB (P-SIDE) AT HORIL GIRDER IN SEC. (D) PLAN. 5. MODIFIED TYPE OF HATCH END COAMING STAY FROM TYPE (ST) TO TYPE (ST'). 6. ADDED BLOCK BUTT JOINTS ON HORIL GIRDER AND TRANS BOX GIRDER IN WAY OF C.L. LONGL BOX GIRDER OR VERT. PILLAR. 7. SHIFTED BLOCK BUTT JOINTS ON TRANS BOX GIRDER ON CONTAINER SUPPORT CONSTRUCTION IN WAY OF LONGITUDINAL BULKHEAD. 8. DELETED ADJUSTING PIECE OF LOWER END OF CELL GUIDE. 9. REARRANGED BUTT JOINTS ON CELL GUIDE. 10. MODIFIED SHAPE OF CELL GUIDE RIBS. BASED DWG MES DWG NO. 2107311 (INCL. PARTLY REVISED PLAN NO. 1 & 2)	AUG. 5, '85	
-11		FOLLOWED MES PARTLY REVISED PLAN NO. 3	AUG. 12, '85	
-12		Do. NO. 4	AUG. 17, '85	
-13	B	DELETED BLOCK BUTT JOINT ON C.L. SEC. (P-SIDE).	OCT. 01, '85	

SHEETS WITH COVER

CON-FERRED	SHIP DESIGNING DEPARTMENT HULL DESIGNING SECTION		CLASS ABS
	APPROVED	S. Hirayama, S. Kobayashi	コンテナー支持構造(第1倉)
	CHECKED	S. Furuhashi	CONT. SUPPORT CONST. (NO.1 H.)
	DRAWN		
	SCALE		
	ORDER	01-15800 ~~01-15000~~ ~~01-10400~~	ITEM / DRAWING NO. HS-19410-F / LYKES REF. NO. 120503

MITSUBISHI HEAVY INDUSTRIES, LTD.
KOBE SHIPYARD & ENGINE WORKS

PLAN RECORD BY MHI (CONTINUE)

ALT. NO.	MARK	DISCRIPTION	DATE	BY
—	—	DELETED MHI PARTLY REVISED PLAN NO. -13 REFER TO MHI TLX NO. LL-126 DATED NOV. 25 '85.	NOV. 25 '85	
-F		PREPARED AS FINISHED PLAN FOR S.NO. 1158	MAR. 11 '87	

APPROVAL OF OWNER & REGULATORY BODIES

ALT. NO.	OWNER DATE	OWNER LETTER NO.	USCG DATE	USCG LETTER NO.	ABS DATE	ABS LETTER NO.	USPH DATE	USPH LETTER NO.
ORIGINAL	23 APR '85	OFTS/MES-079						
PART. REV. PLAN NO. 1								
PART. REV. PLAN NO. 2	23 JUL '85	TAM/26						

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SHIPYARD AND SHIP'S NO. & NAME

~~MITSUI TAMANO~~		MITSUBISHI KOBE	
NO. 1323	~~DOCTOR LYKES~~	NO. 1158	JAMES LYKES
NO. 1324	~~ALMERIA LYKES~~	NO. 1159	~~JOSEPH LYKES~~
NO. 1325	~~TILLIE LYKES~~	NO. 1164	~~SOLON TURMAN~~

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER — SHIP'S NO. — SHIP'S NAME

STRUCTURE DESIGN SEC.
SEC. CHIEF N. Yamamoto
ASSIST CHIEF
CHARGE ENG'R
STAFF T.E. H.Y.
DATE (TEL. 2230)

PARTLY REVISED PLAN NO. 4

コンテナー支持構造(第1倉)
CONT. SUPPORT CONST. (NO.1 H.)

JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 120503 — MITSUI DRAWING NO. 2107311-4

(3 SHEETS WITH COVER)

PLAN RECORD

ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
ORIGINAL		PREPARED FOR APPROVAL OF OWNER & ABS	FEB. 27 '85
1	1	DESIGN DEVELOPMENT & OWNER COMMENT MISCELLANEOUS RIVESION (DESIGN DEVELOPMENT)	JUN. 26 '85
2	2	MISCELLANEOUS RIVESION (DESIGN DEVELOPMENT)	JUL. 9 '85 H.Y.
3	3	MISCELLANEOUS RIVESION (DESIGN DEVELOPMENT)	JUL. 30 '85 H.Y.
4	4	MISCELLANEOUS RIVESION (DESIGN DEVELOPMENT)	AUG. 20 '85 H.Y.

DWG. NO. 2107311-4

543

NOTES:-

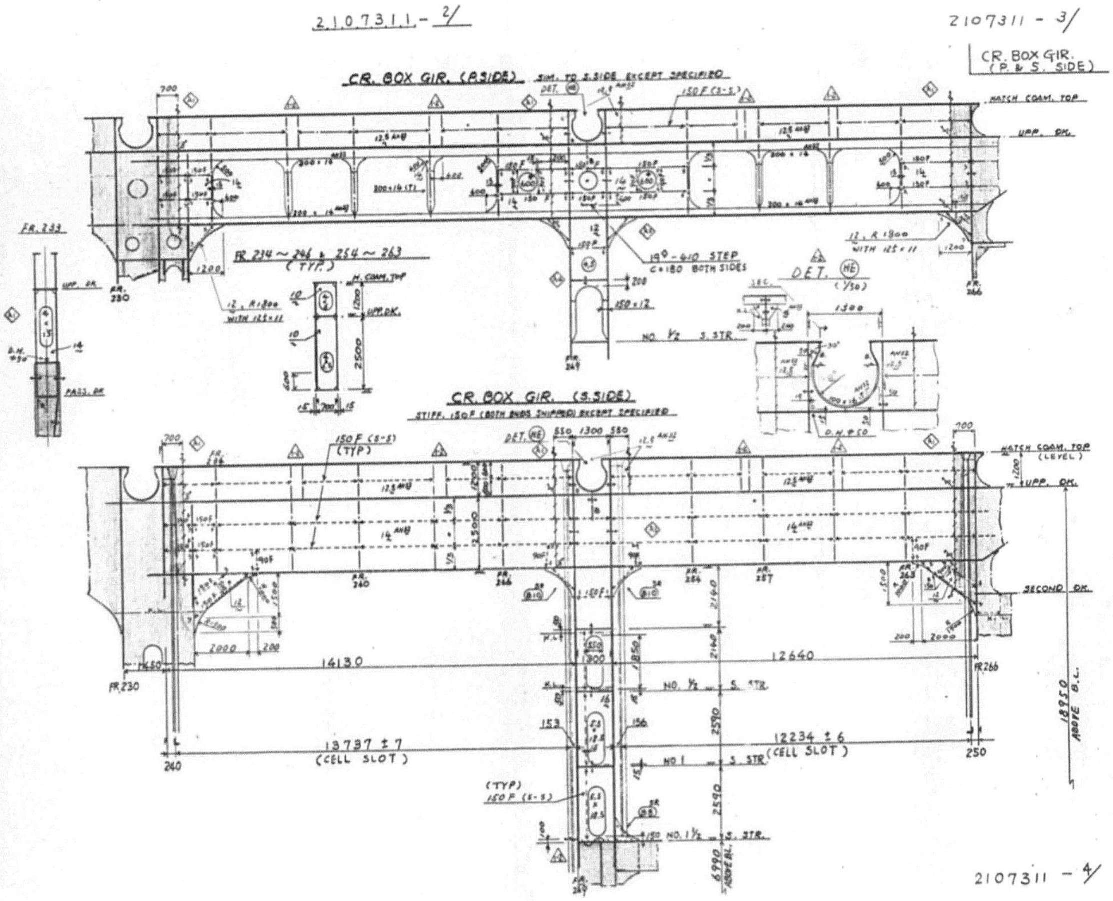
1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

MATERIAL LIST

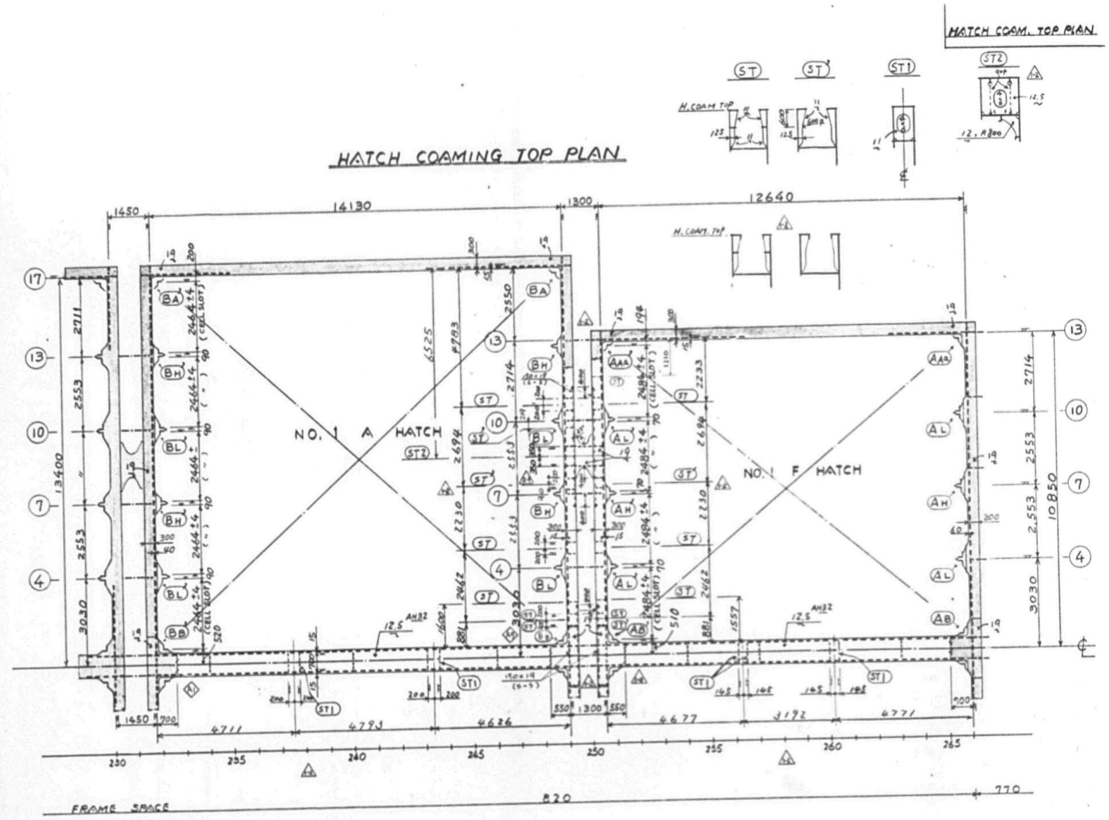
	ITEM	MTERIAL	NO	WT (TON) ABT.
②	ENTRY GUIDE	(STEEL CASTING) SC42 (MAX. CARBON 0.20%)	4	
③	〃	〃	8	
④	〃	〃	8	
⑤	〃	〃	8	
◯				

備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は "構造詳細図（図番2100811）" を参照のこと。
4. 溶接脚長については，特記の他は "溶接脚長表（図番2100832）" を参照のこと。



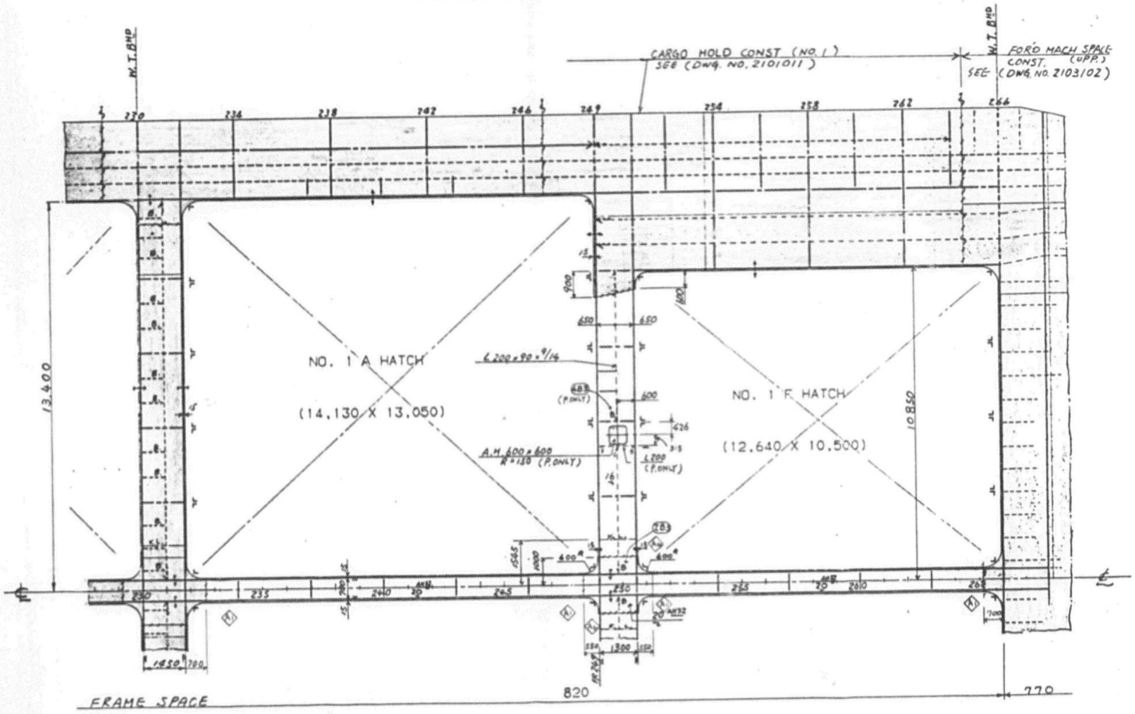
HATCH COAMING TOP PLAN



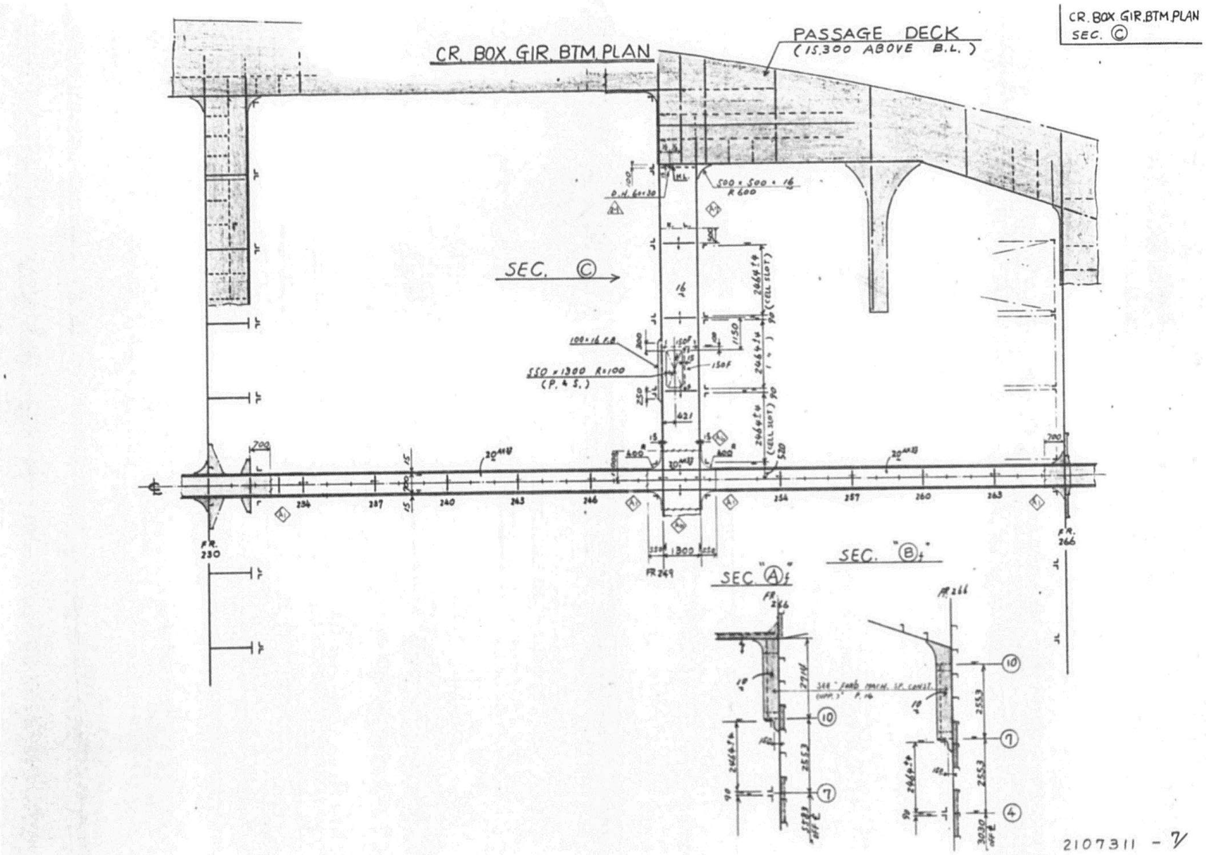
2107311 - 5/

UPPER DECK

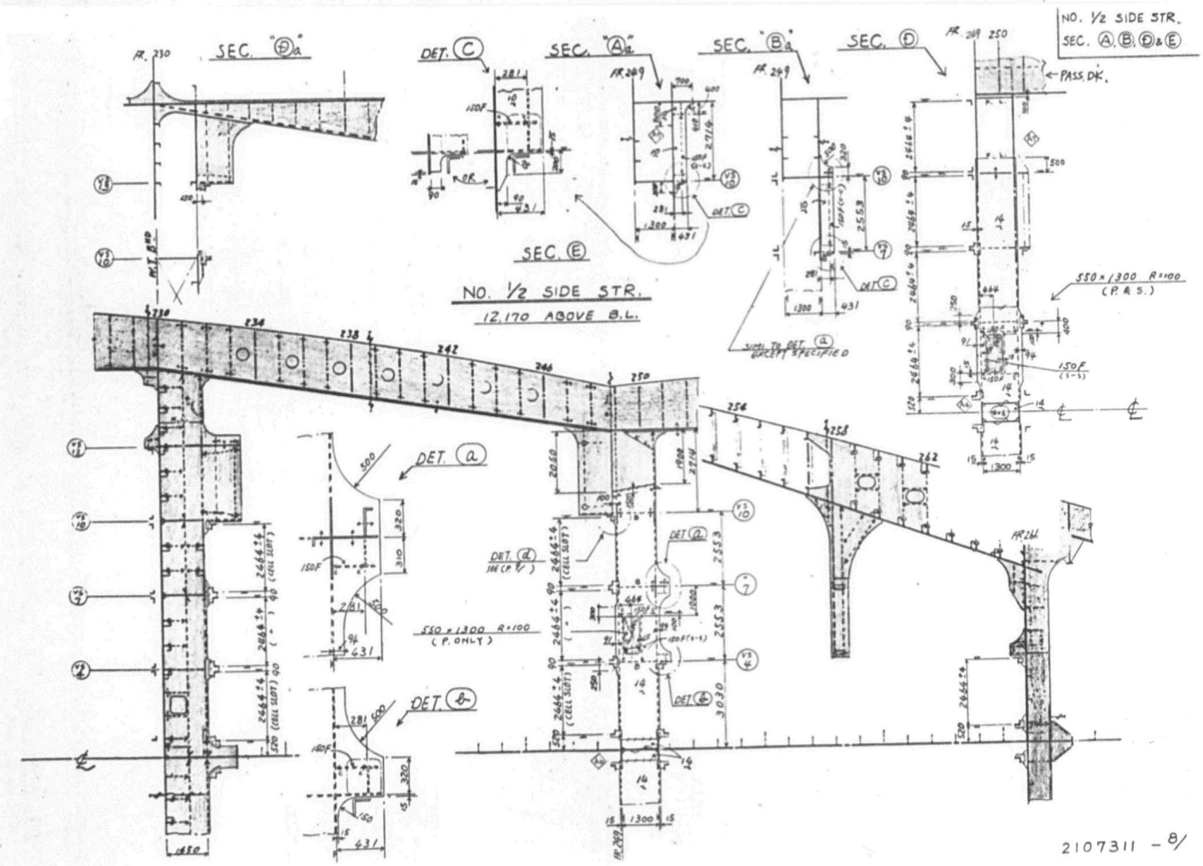
UPPER DECK



2107311 - 6/



2107311 - 7/



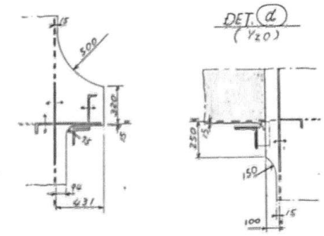
2107311 - 8/

546

NO. 1 SIDE STR.
SEC. (F)

DET. (e)
(1/25)

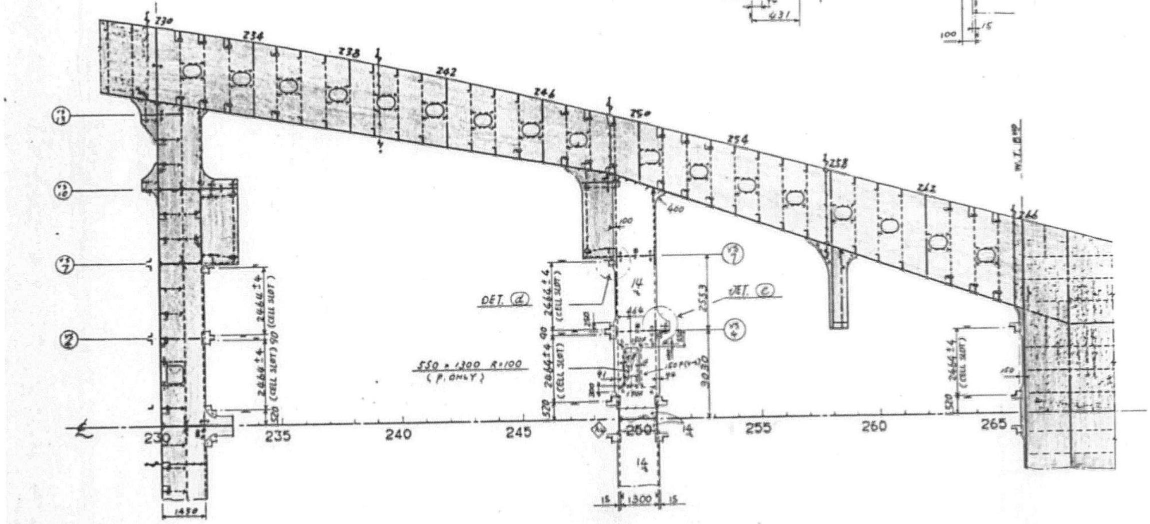
DET. (d)
(1/20)



SEC. (F)

NO. 1 SIDE STR.

9.580 ABOVE B.L.

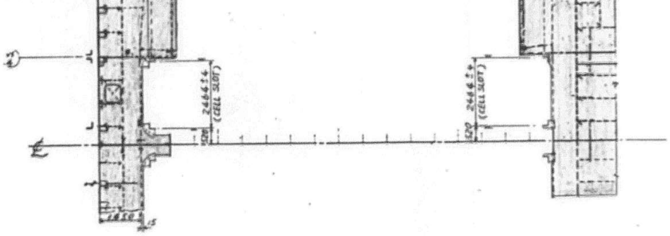


2107311 - 9/

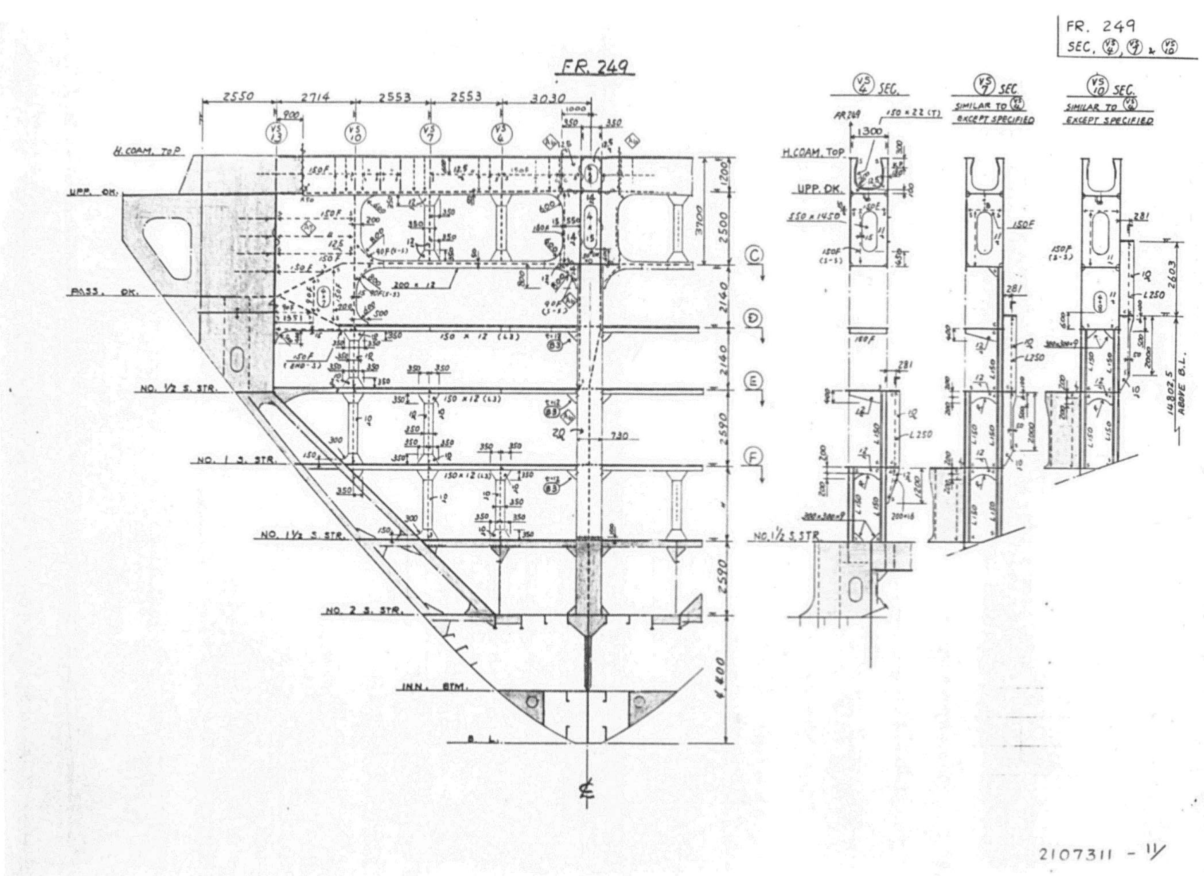
SEC. (G)

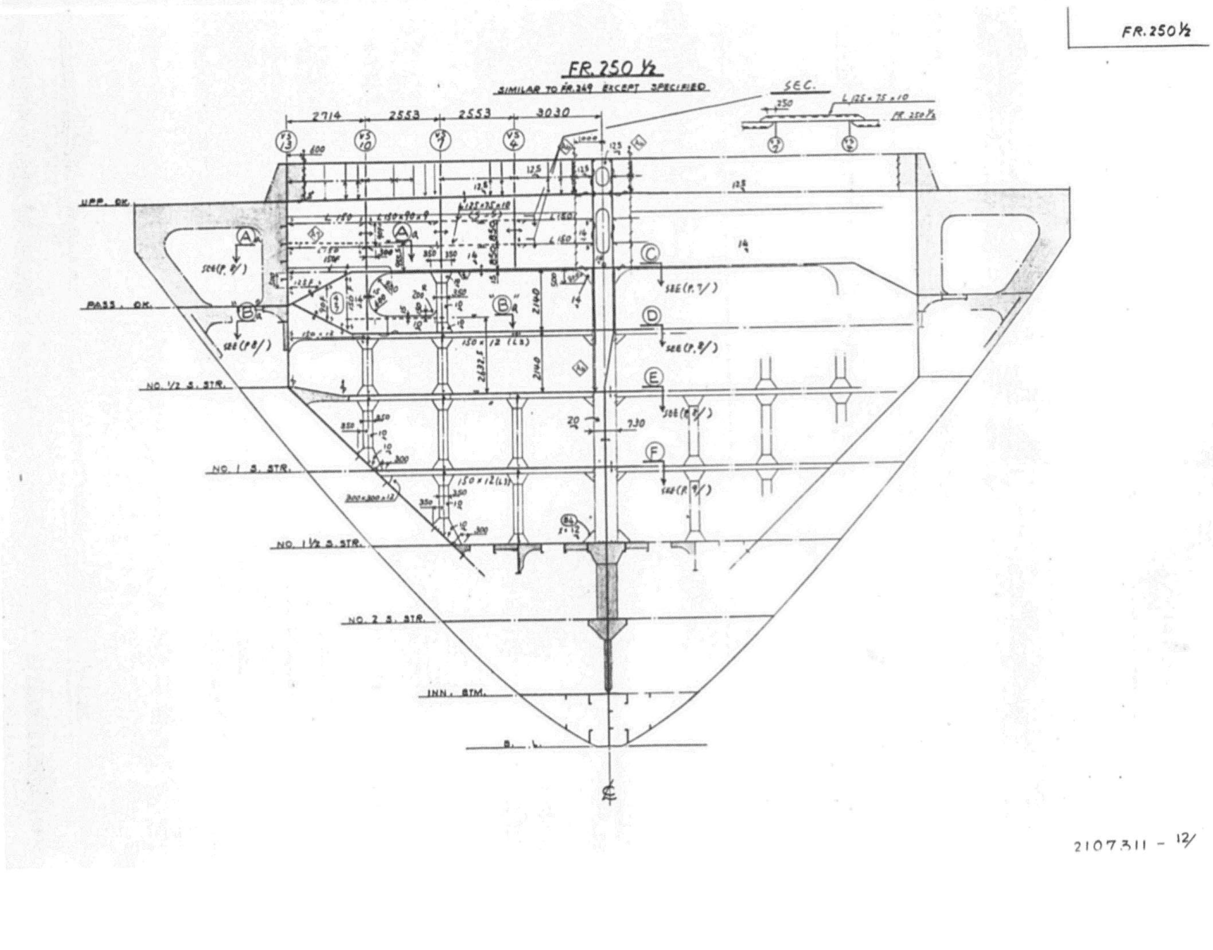
NO. 1 1/2 SIDE STR.

6.990 ABOVE B.L.



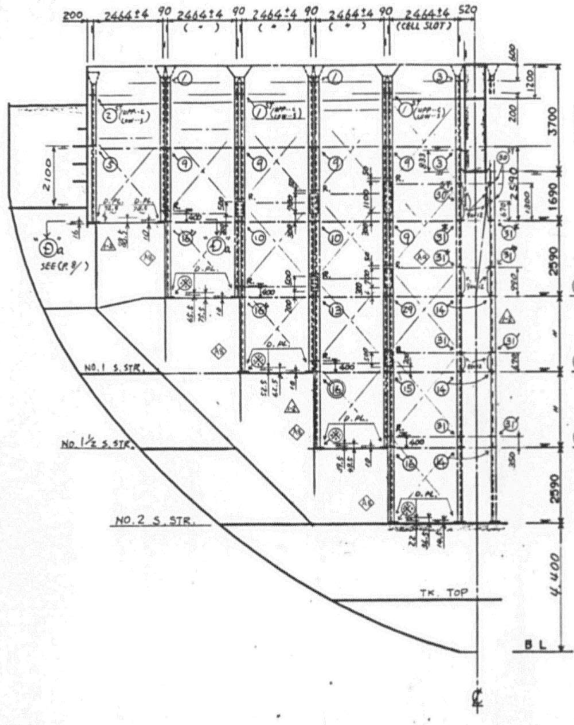
2107311 - 19/


FR. 249
FR. 249
SEC.
SEC.
SIMILAR TO
EXCEPT SPECIFIED
H. COAM. TOP
UPP. DK.
PASS. DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
INN. BTM.
B. L.
2550
2714
2553
2553
3030
14802.5
ABOVE B.L.
2107311 - 11/


FR. 250 1/2
FR. 250 1/2
SIMILAR TO FR. 249 EXCEPT SPECIFIED
SEC.
UPP. DK.
PASS. DK.
NO. 1/2 S. STR.
NO. 1 S. STR.
NO. 1 1/2 S. STR.
NO. 2 S. STR.
INN. BTM.
B. L.
2714
2553
2553
3030
2107311 - 12/

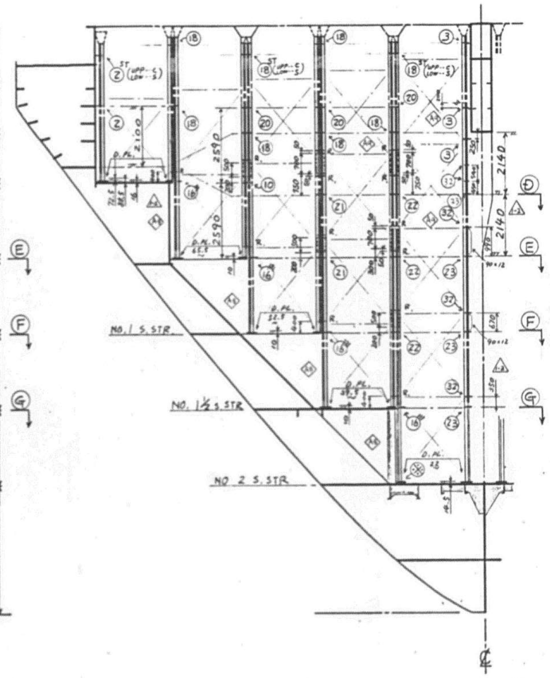
FR. 231 FORE

CELL GUIDE L 150 × 150 × 12



FR. 249 AFT

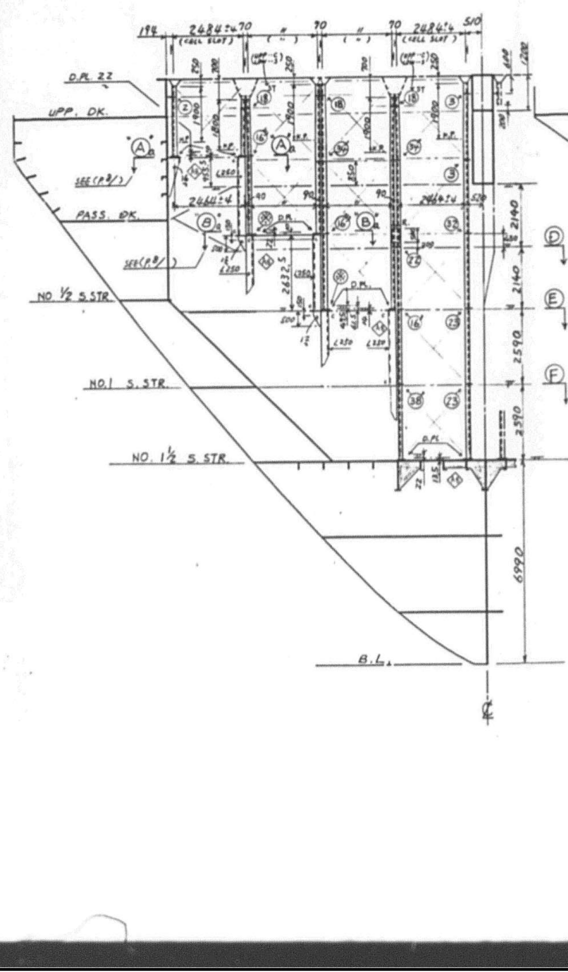
SIMILAR TO FR. 231 FORE EXCEPT SPECIFIED



2107311 - 13/

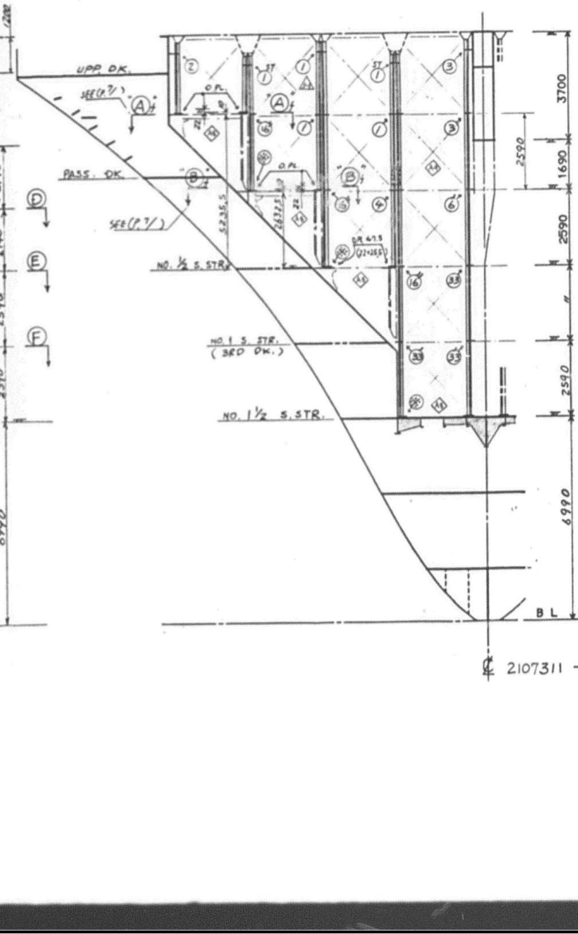
FR. 250 FORE

CELL GUIDE L 150 × 150 × 12



FR. 266 AFT

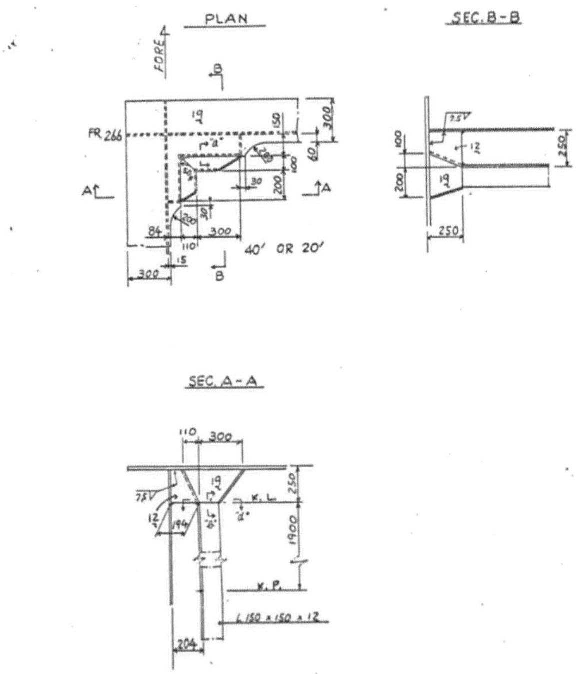
SIMILAR TO FR. 250 FORE EXCEPT SPECIFIED



2107311 - 14/

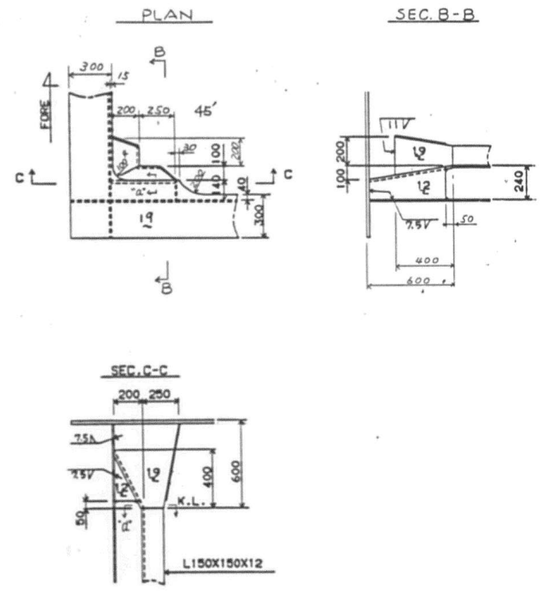
549

(Aa) ENTRY GUIDE
HATCH END (HATCH END)



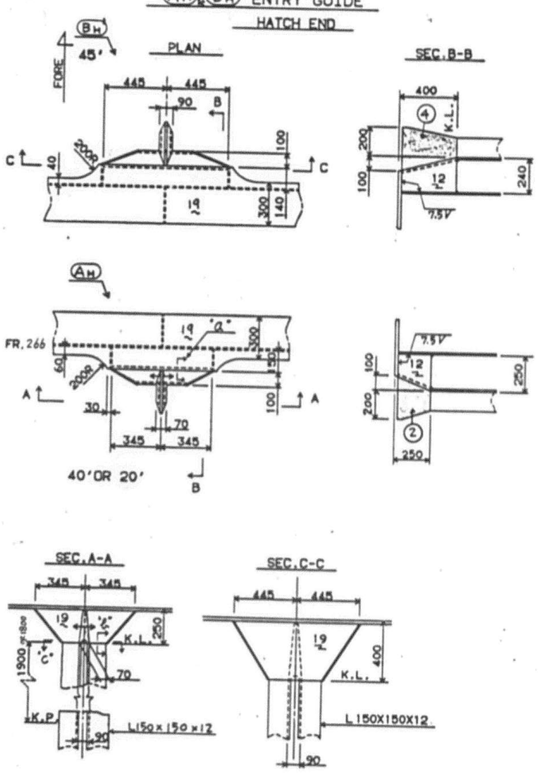
2107311 - 15

(BA) ENTRY GUIDE
HATCH END (HATCH END)



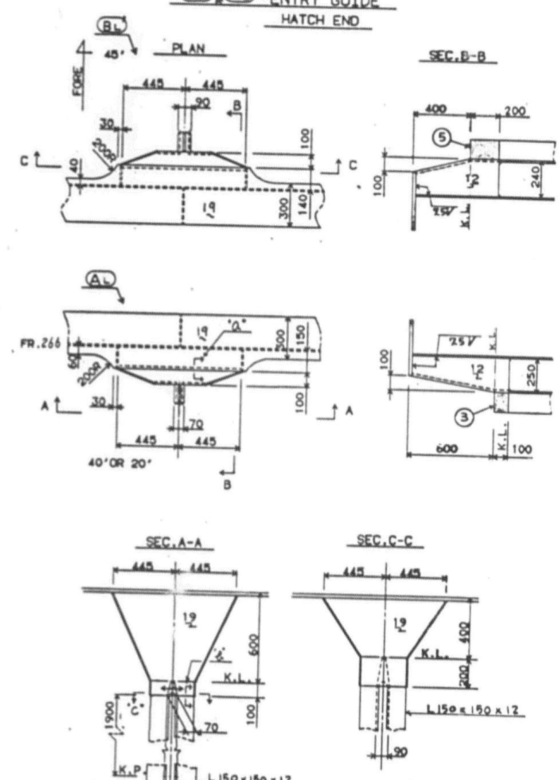
2107311 - 16

(AH), (BH) ENTRY GUIDE
HATCH END



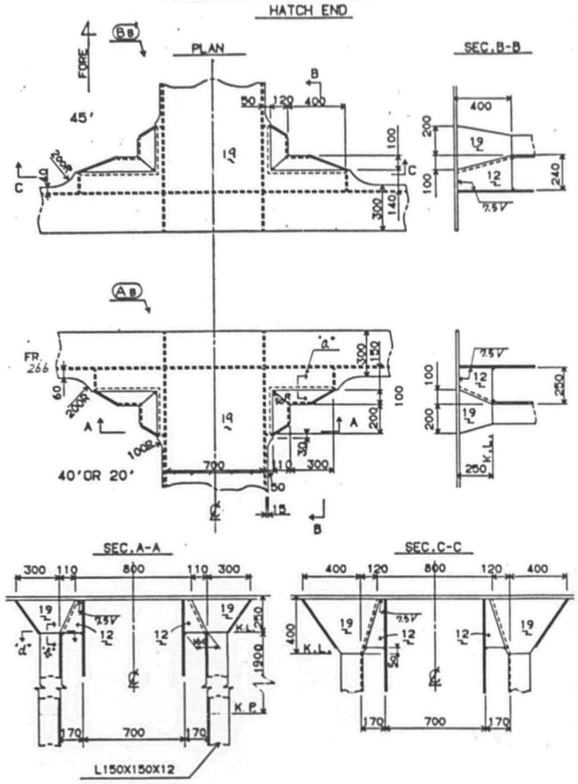
2107311 - 17

(AL), (BL) ENTRY GUIDE
HATCH END



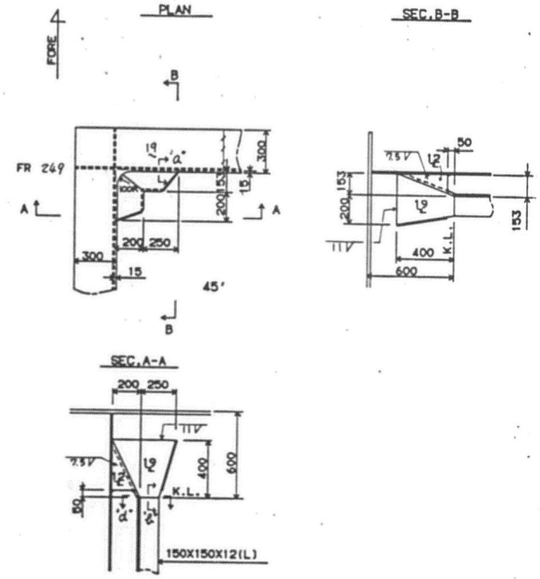
2107311 - 18

AB, BB ENTRY GUIDE
HATCH END



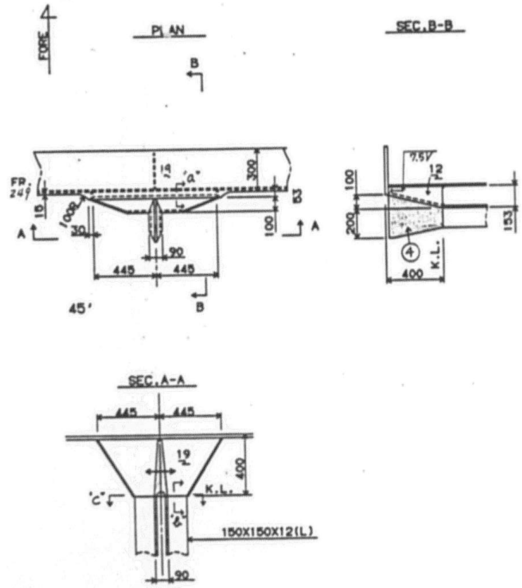
2107311 - 19/

BA ENTRY GUIDE
MID-HOLD (AT SIDE)



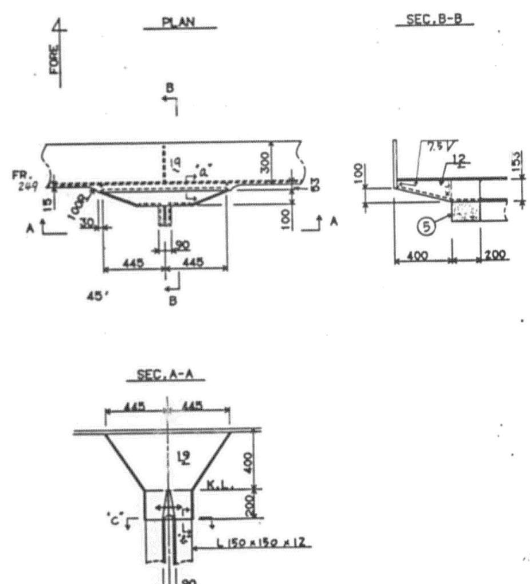
2107311 - 20/

BH ENTRY GUIDE
MID-HOLD



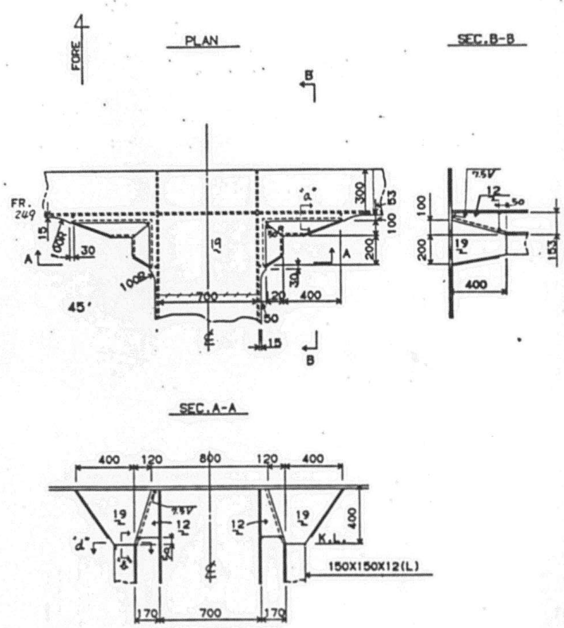
2107311 - 21/

BL ENTRY GUIDE
MID-HOLD



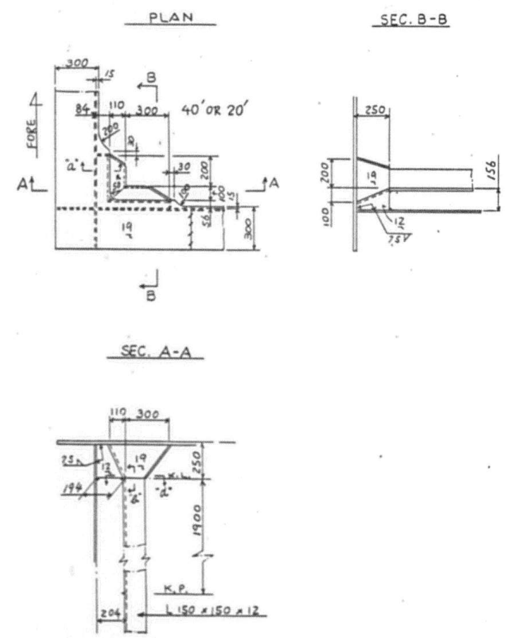
2107311 - 22/

(BB) ENTRY GUIDE
MID-HOLD



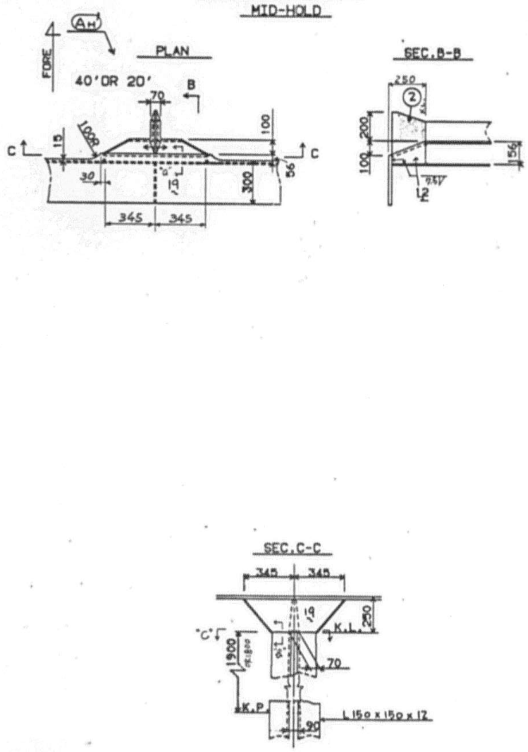
2107311 - 23/

(AAa) ENTRY GUIDE
MID-HOLD (AT SIDE)



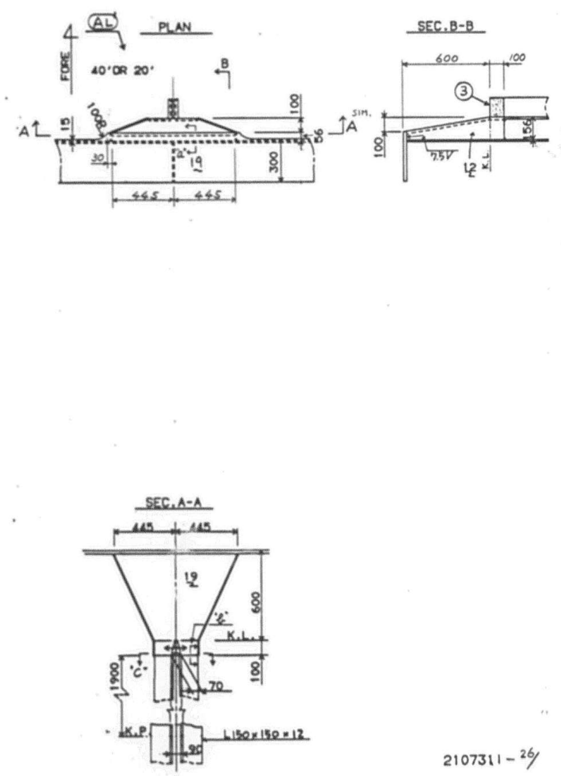
2107311 - 24/

(AH) ENTRY GUIDE
MID-HOLD

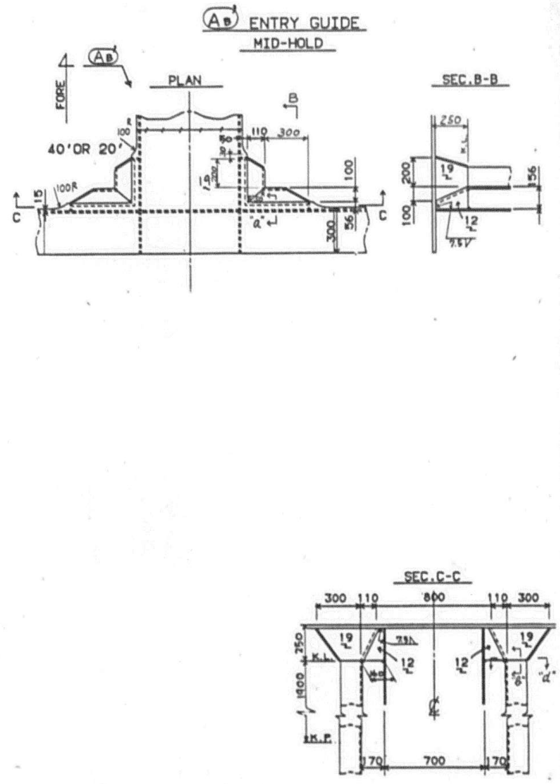


2107311 - 25/

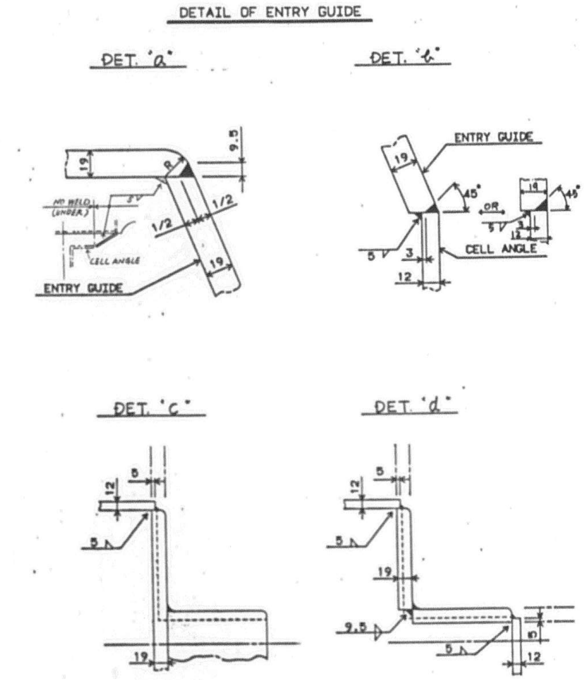
(AL) ENTRY GUIDE
MID-HOLD



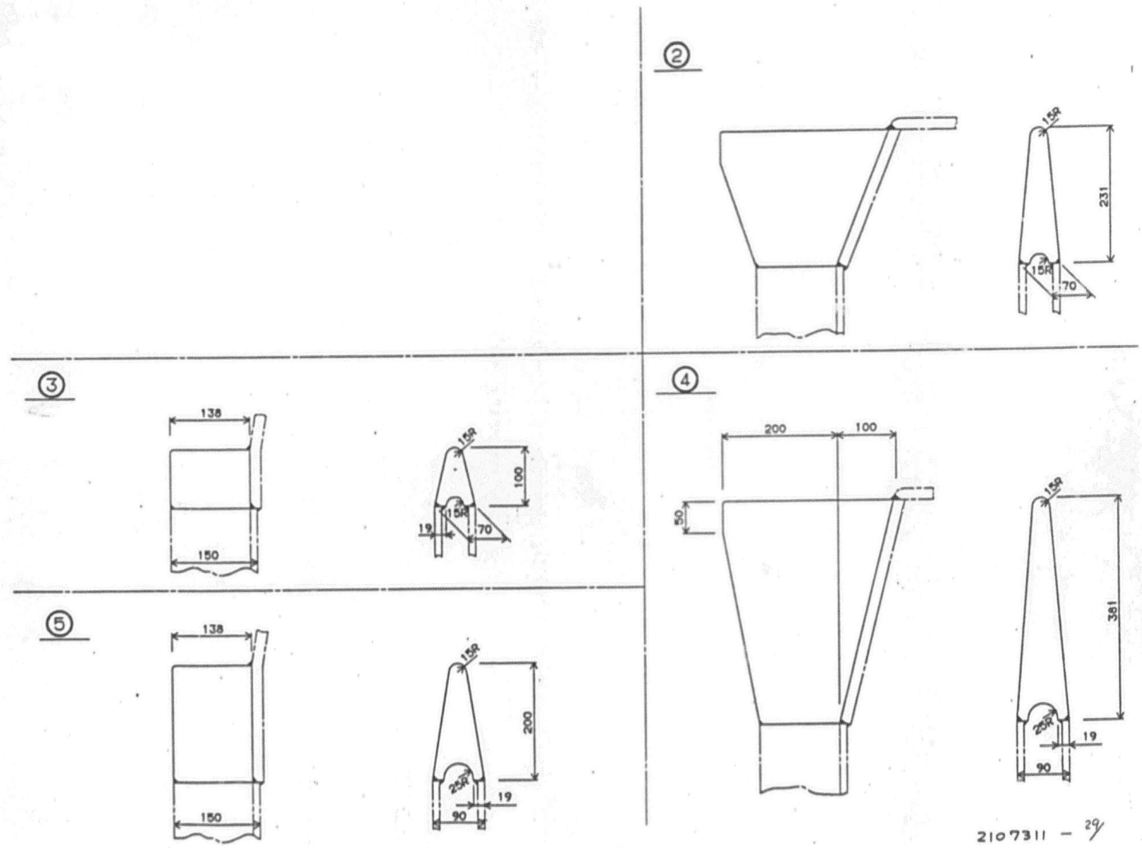
2107311 - 26/



2107311 - 27/



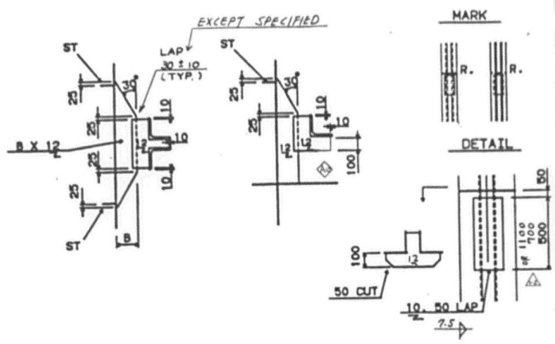
2107311 - 28/



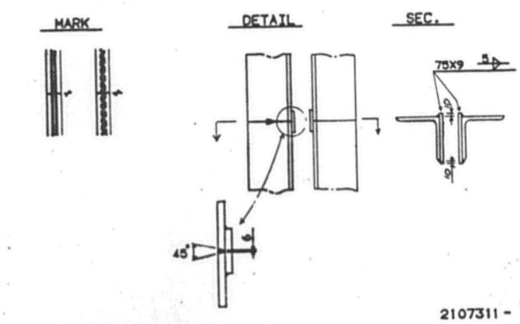
2107311 - 29/

TYPICAL CELL GUIDE RIB

1. WELD.---- 5 EXCEPT SPECIFIED.
2. LAP WELD---- 10 EXCEPT SPECIFIED
3. ST MARK STIFF.---- 90 X 9 F.B. (ST MARK TO BE FITTED.)
(BOTH ENDS CLIP EXCEPT SPECIFIED)

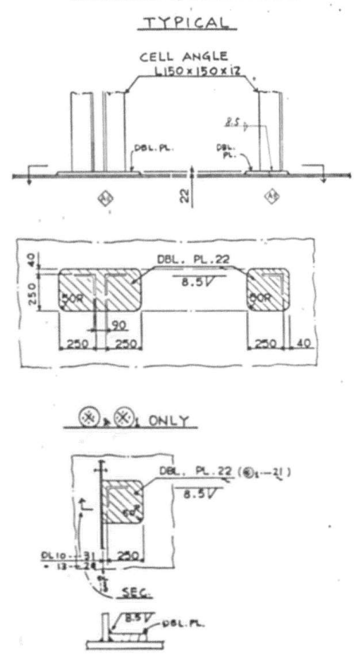


DETAIL OF CELL GUIDE CONNECTION



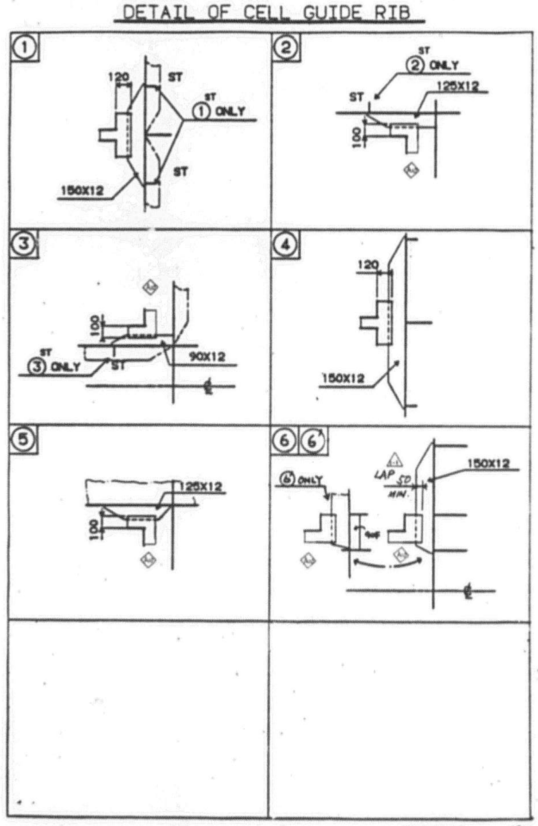
2107311 - 30/

DETAIL OF LOW. END

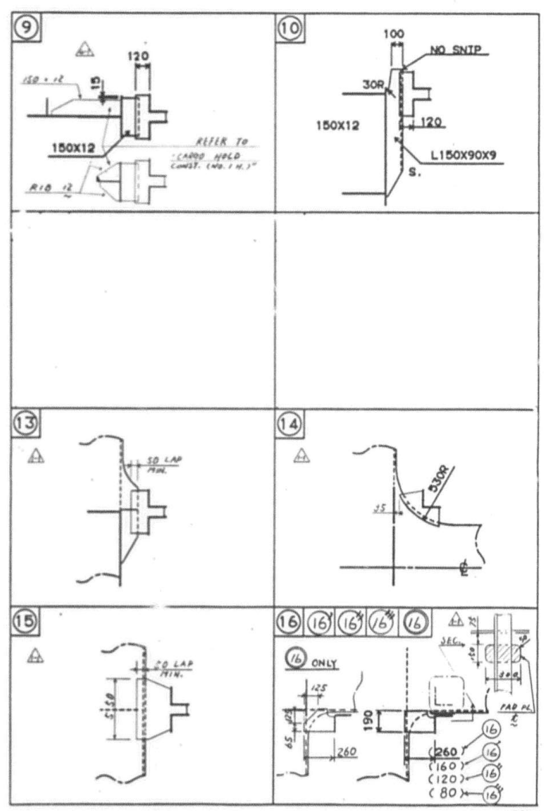


2107311 - 31/

DETAIL OF CELL GUIDE RIB

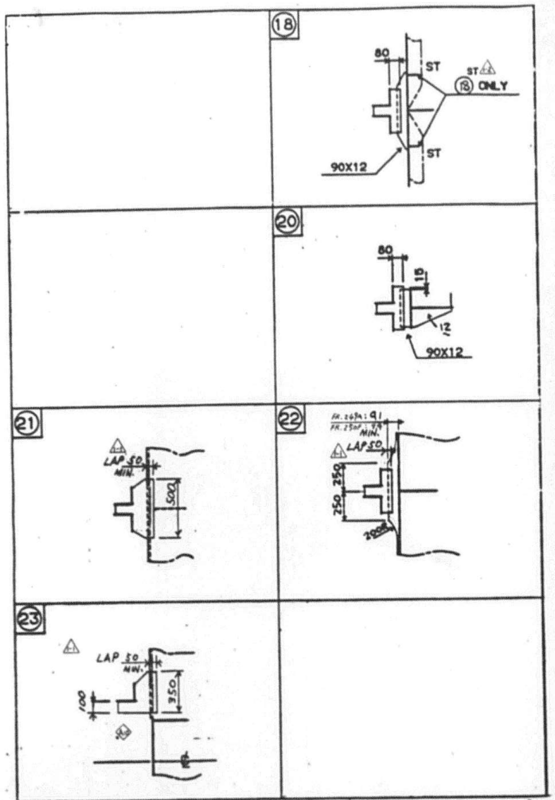


2107311 - 32/

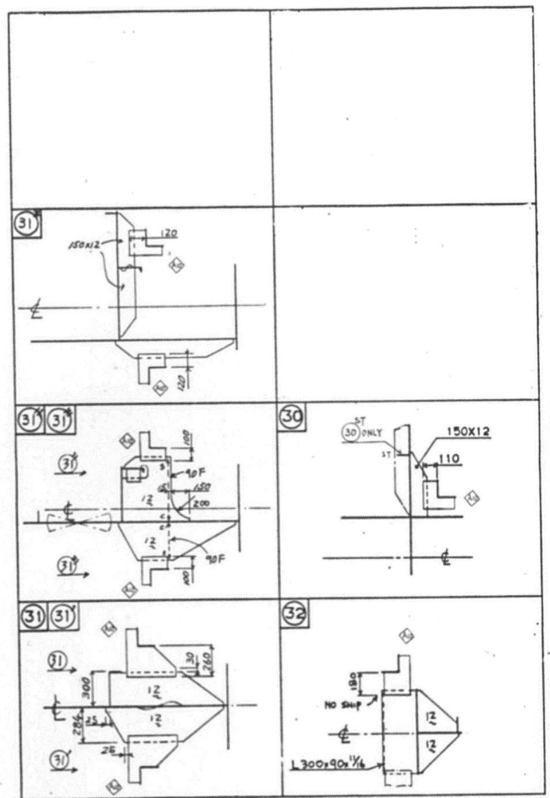


2107311 - 33/

554

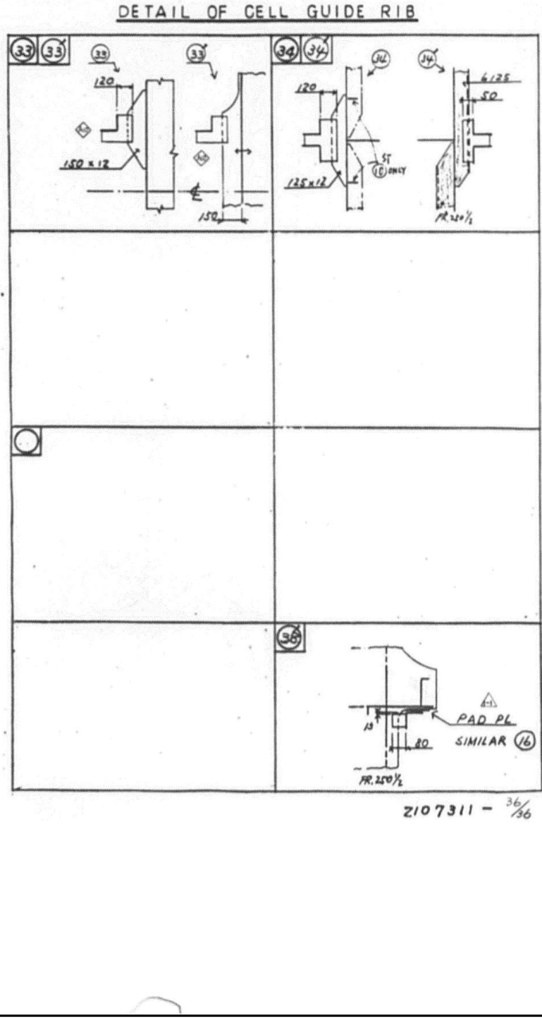


2107311 - 34/



2107311 - 35/

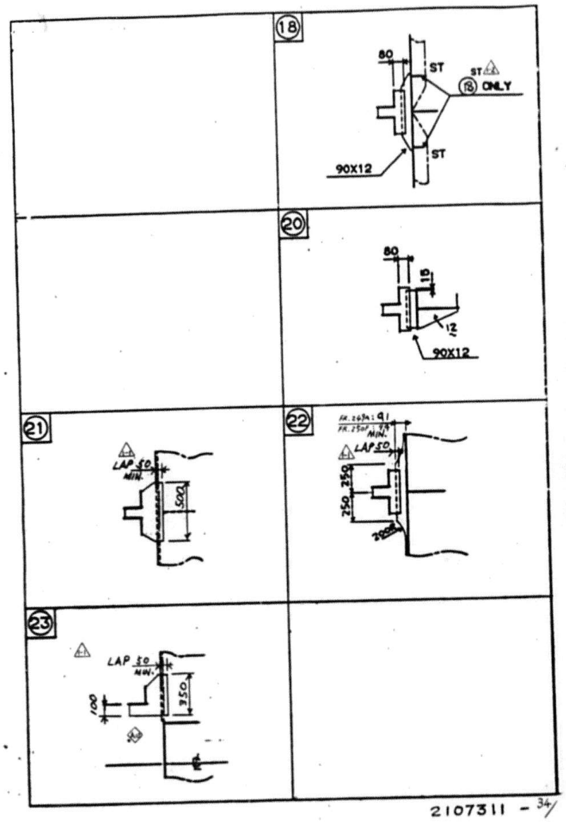
DETAIL OF CELL GUIDE RIB



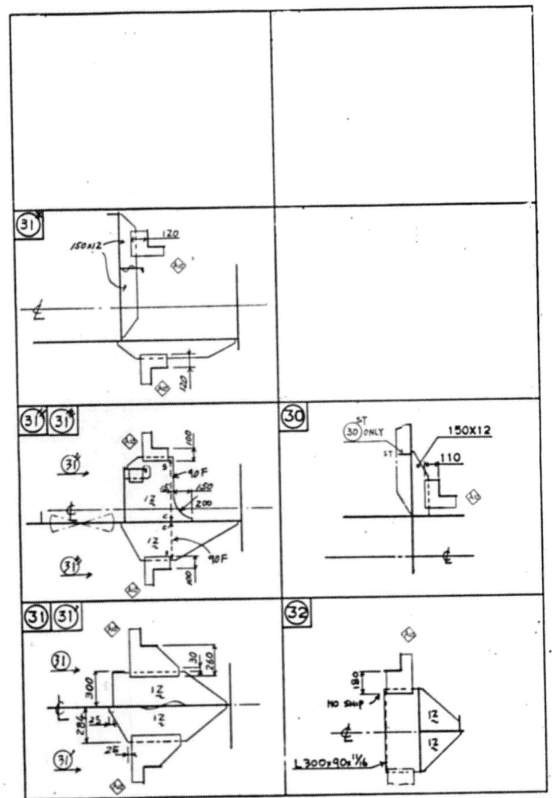
2107311 - 36/36

ATTENTION!

FILM NO. 554 (THE LAST FILM) IS WRONG.

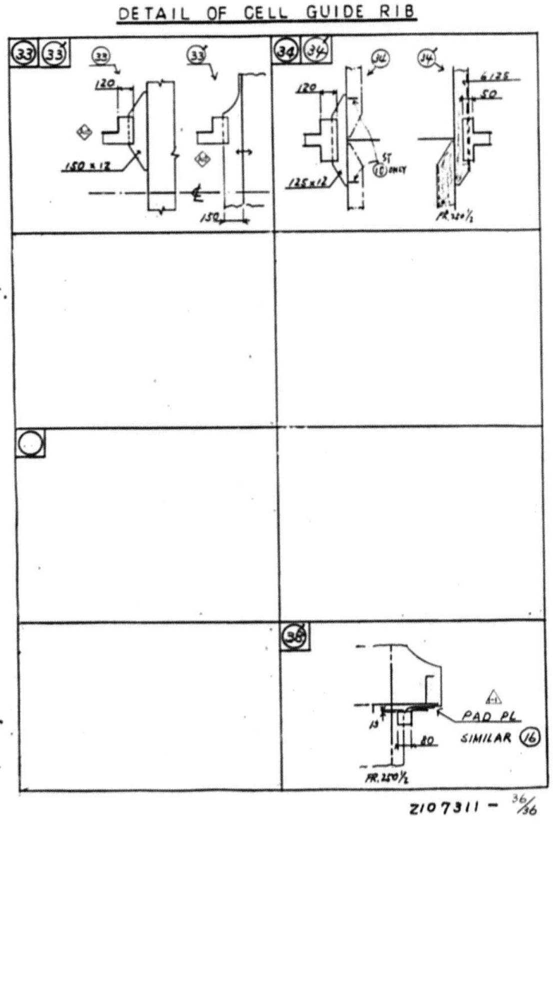


2107311 - 34/



2107311 —35/

DETAIL OF CELL GUIDE RIB



2107311 - 36/36

555

APPROVAL OF OWNER & REGULATORY BODIES								
ALT. NO.	OWNER		USCG		ABS		USPH	
	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.	DATE	LETTER NO.
ORIGINAL	24 MAY '86	OFTS/MES-668			11 AUG '86	7-P-2		
1ST PART REV	24 JUL '86	OFTS/MES-779			17 SEP '86	7-P-2		
2ND PART REV	25 JUL '86	TAM/24			17 SEP '86	7-P-2		
3RD PART REV	7 AUG '86	TAM/91			4 OCT '86	7-P-2		

FINISHEDPLAN

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SHIPYARD AND SHIP'S NO. & NAME			
MITSUI TAMANO		MITSUBISHI KOBE	
NO.1323	DOCTOR LYKES	NO.1158	JAMES LYKES
NO.1324	ALMERIA LYKES	NO.1159	JOSEPH LYKES
NO.1325	TILLIE LYKES	NO.1164	SOLON TURMAN

MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
TAMANO WORKS

SHIP DESIGN DEPARTMENT MANAGER — STRUCTURE DESIGN SEC.

SHIP'S NO. 1325 — SHIP'S NAME TILLIE LYKES

コンテナー支持構造（オ2倉）
CONTAINER SUPPORT CONST. (NO.2 H.)

DATE (TEL. 2210)
JOB NO. TS1323/24/25 — SCALE 1/100 — LYKES REF. NO. 120504 — MITSUI DRAWING NO. 2107312

(53 SHEETS WITH COVER)

PLAN RECORD			
ALT. NO.	MARK	ALTERATION/DESCRIPTION	DATE & SIGNATURE
		PREPARED FOR S.NO. 1323 AS FINISHED PLAN, MADE APPLICABLE TO S.NO. 1324 AND S.NO. 1325.	NOV. 28 '86

DWG. NO. 2107312 - 1/

NOTES:-

1. BOTH SIDES TO BE SYMMETRICAL EXCEPT SPECIFIED.
2. TRANS. SECTIONS TO BE "LOOKING FORE" EXCEPT SPECIFIED.
3. REFER TO "CONSTRUCTION DETAILS (DWG NO. 2100811)" FOR STRUCTURAL DETAILS OF MEMBERS, ETC. EXCEPT SPECIFIED.
4. REFER TO "WELDING TABLE (DWG NO. 2100832)" FOR LEG LENGTH OF WELDING EXCEPT SPECIFIED.

備考:-

1. 特記の他は，両舷対称とする。
2. 横断面図は，特記の他は後面を示す。
3. 構造詳細については，特記の他は「構造詳細図（図番 2100811）」を参照のこと。
4. 脚長寸法については，特記の他は「脚長寸法表（図番 2100832）」を参照のこと。

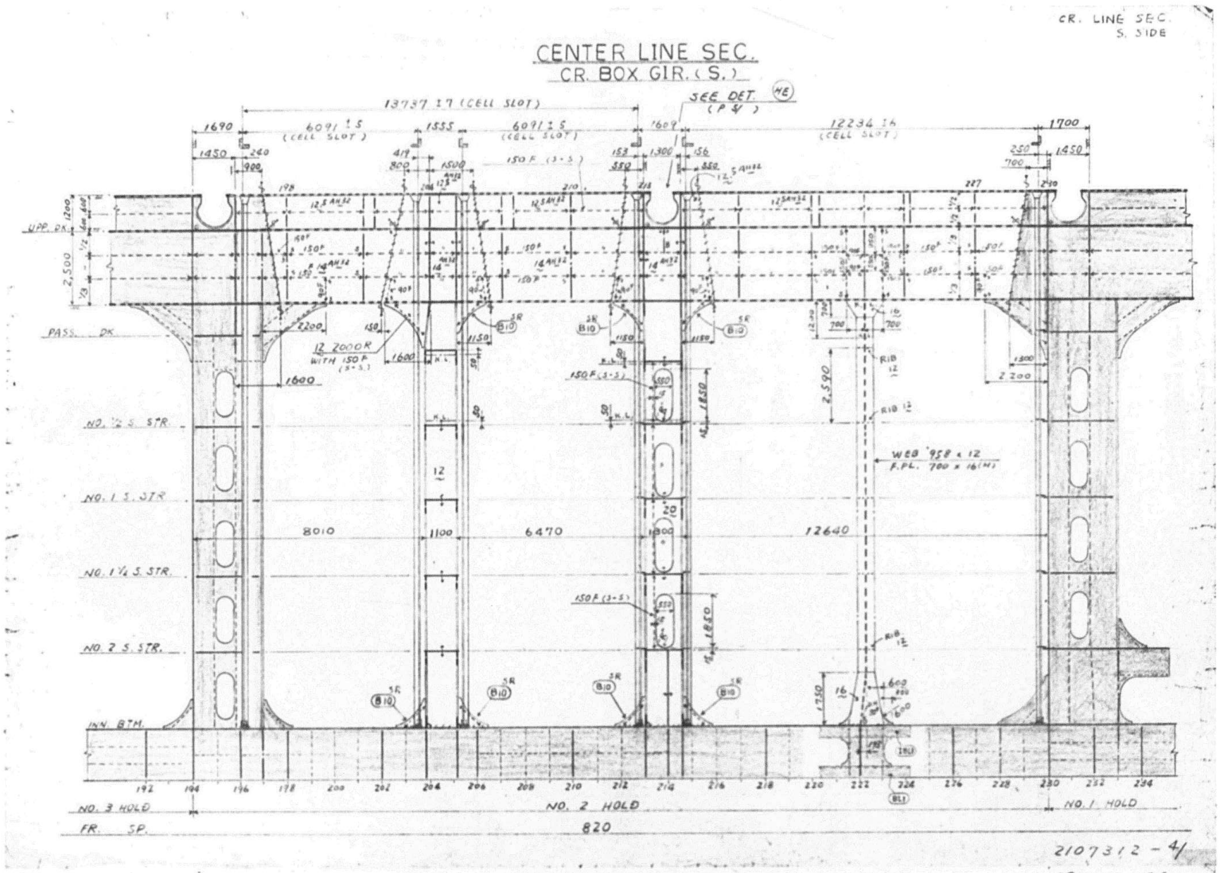
2107312 - 2/

MATERIAL LIST

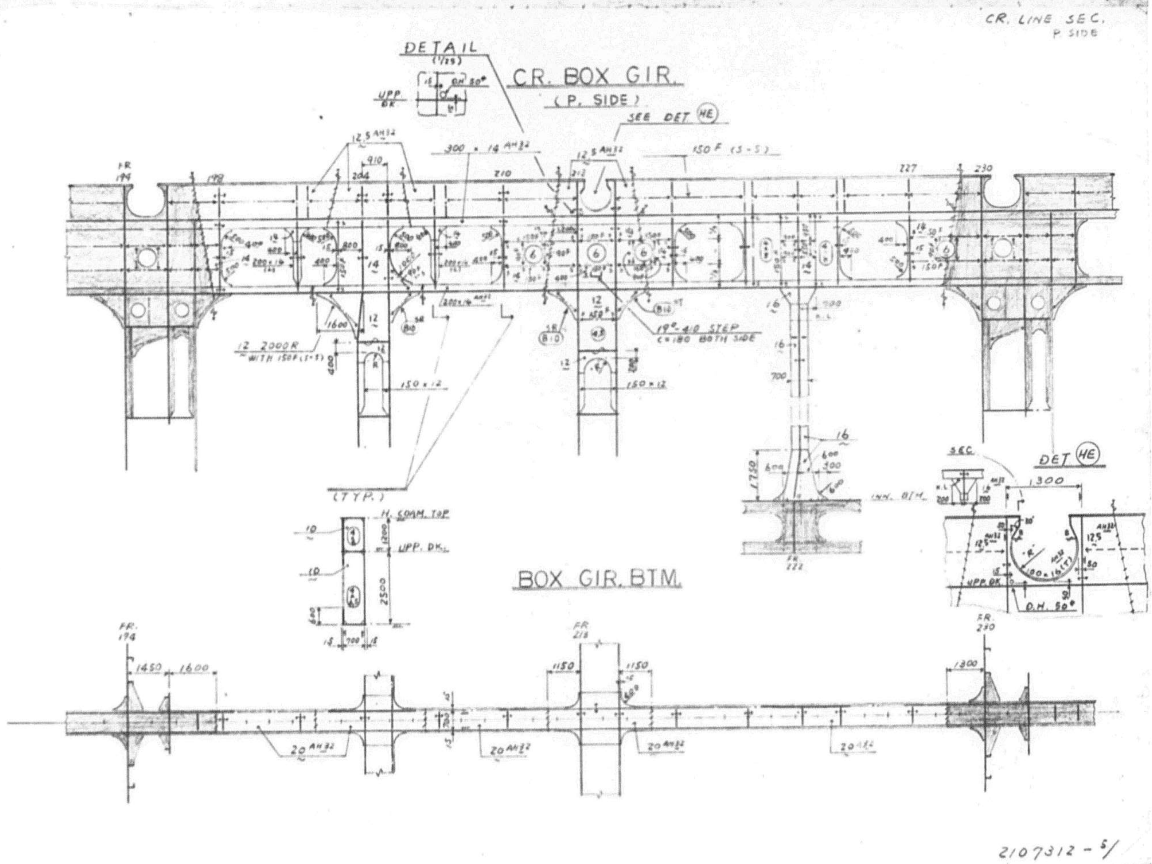
	ITEM	MTERIAL	NO	WT(TON) ABT.	SHOP	ARR. NO.
①	ENTRY GUIDE	(STEEL CASTING) SC42(MAX. CARBON 0.20%)	16		A. 451.	
②	〃	〃	8		〃	
③	〃	〃	24		〃	
○						
○						

2107312 - 3/

556

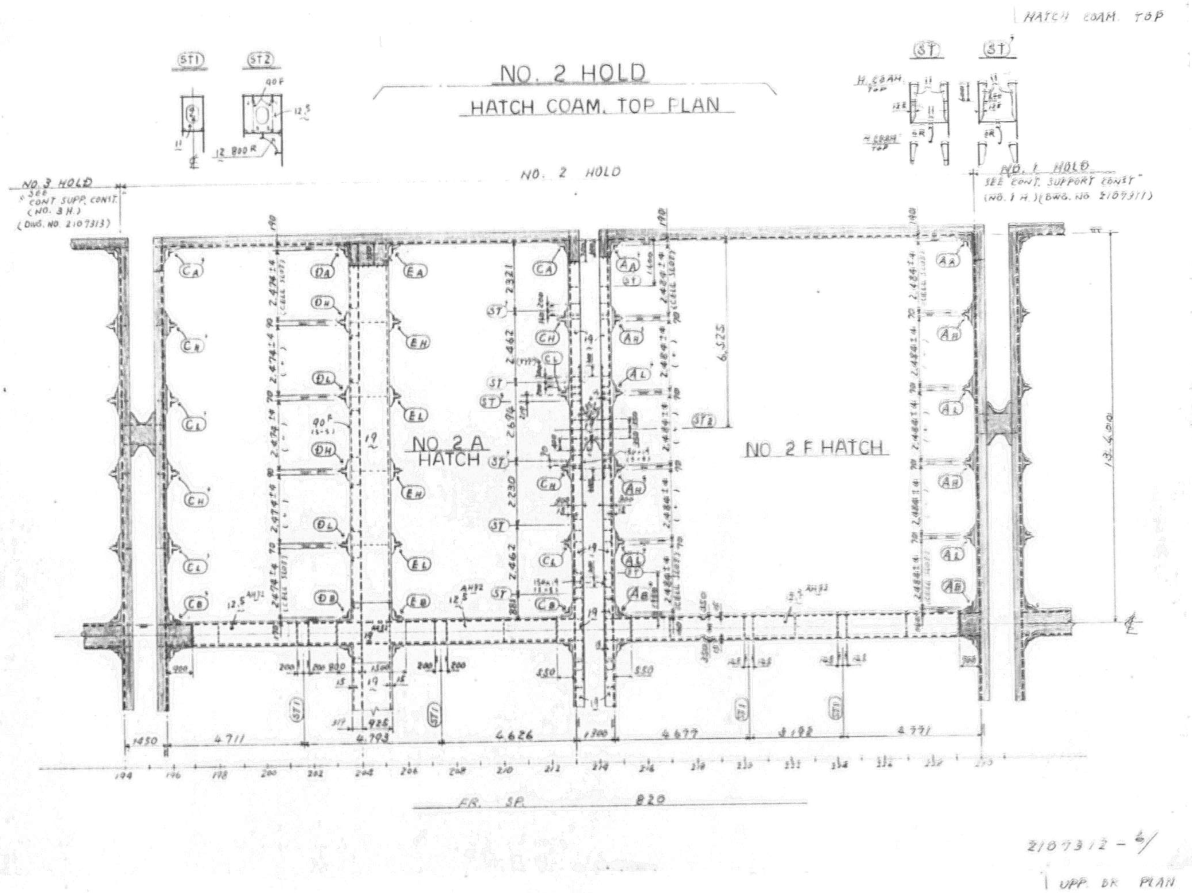


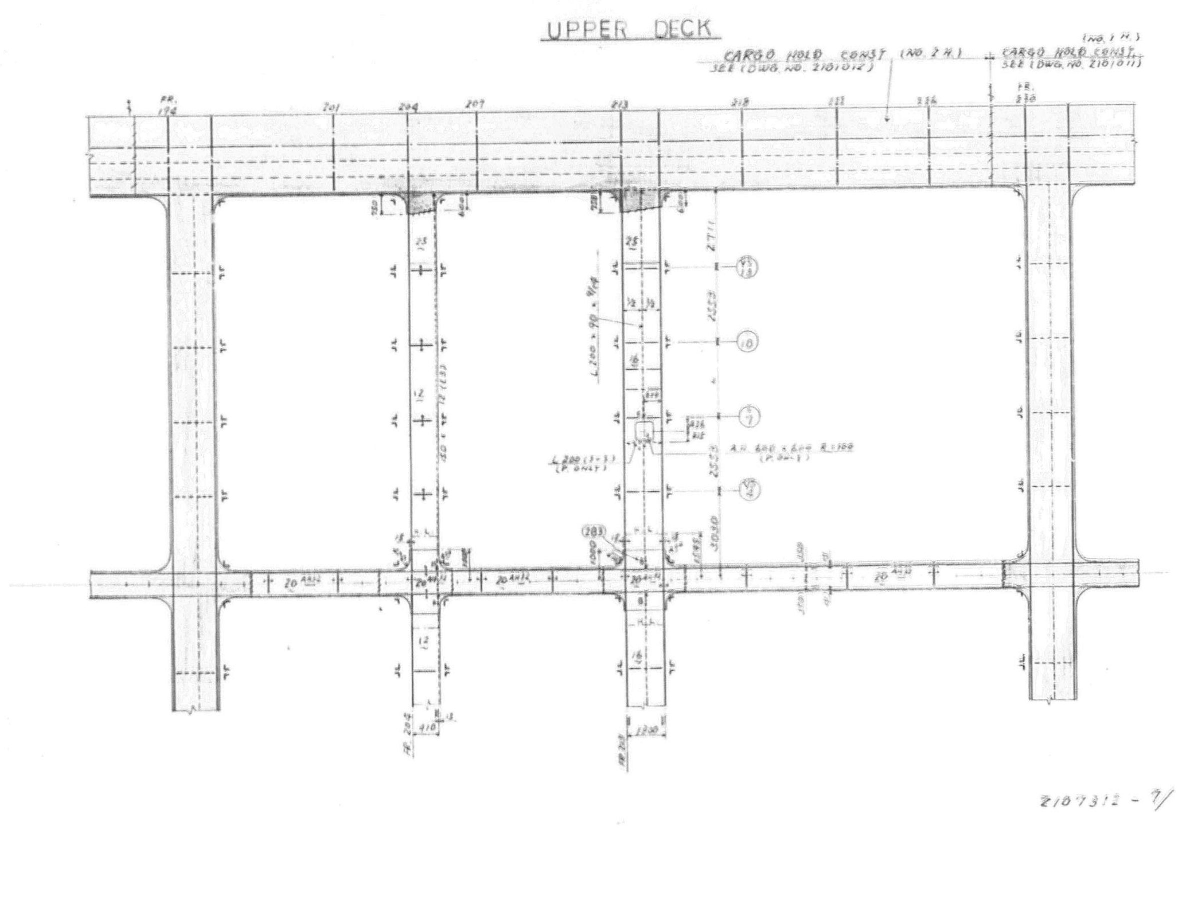
CR. LINE SEC.
S. SIDE
CENTER LINE SEC.
CR. BOX GIR. (S.)
SEE DET. (HE)
(P 4)
PASS. DK.
UPP. DK.
NO. ½ S. STR.
NO. 1 S. STR.
NO. 1½ S. STR.
NO. 2 S. STR.
INN. BTM.
NO. 3 HOLD
NO. 2 HOLD
NO. 1 HOLD
FR. SP.
820
8010
6470
12640
2107312 - 4/



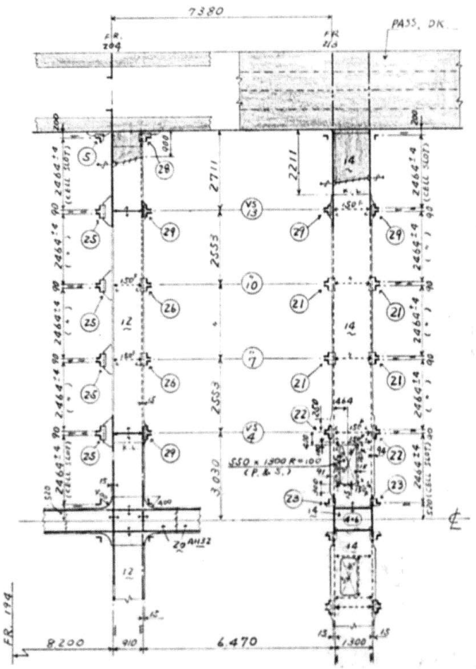
CR. LINE SEC.
P. SIDE
DETAIL
CR. BOX GIR.
(P. SIDE)
SEE DET (HE)
(TYP.)
BOX GIR. BTM.
DET (HE)
2107312 - 5/

557


HATCH COAM. TOP
NO. 2 HOLD
HATCH COAM. TOP PLAN
NO. 2 HOLD
NO. 3 HOLD
NO. 1 HOLD
NO 2 A HATCH
NO 2 F HATCH
FR. SP. 820
2107312 - 6/
UPP. DK PLAN


UPPER DECK
CARGO HOLD CONST (NO. 2 H.)
CARGO HOLD CONST.
2107312 - 7/

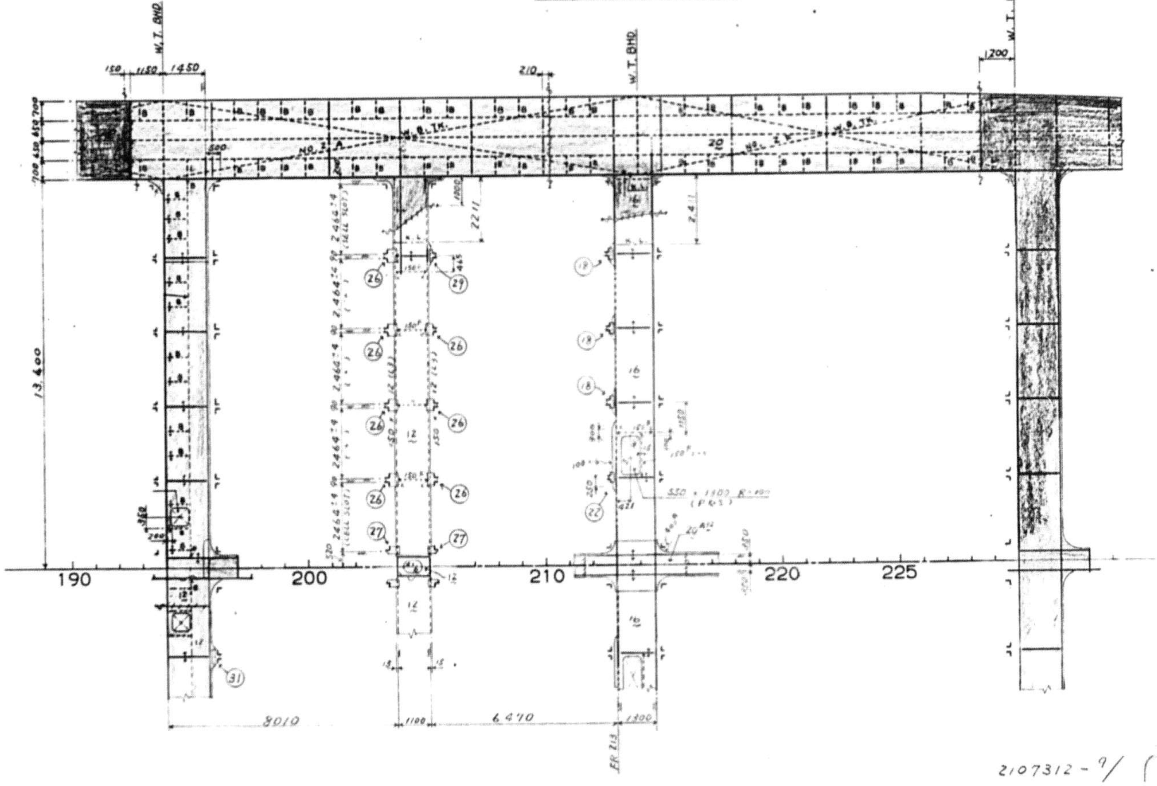
SEC. "A"



2107312 - 8/

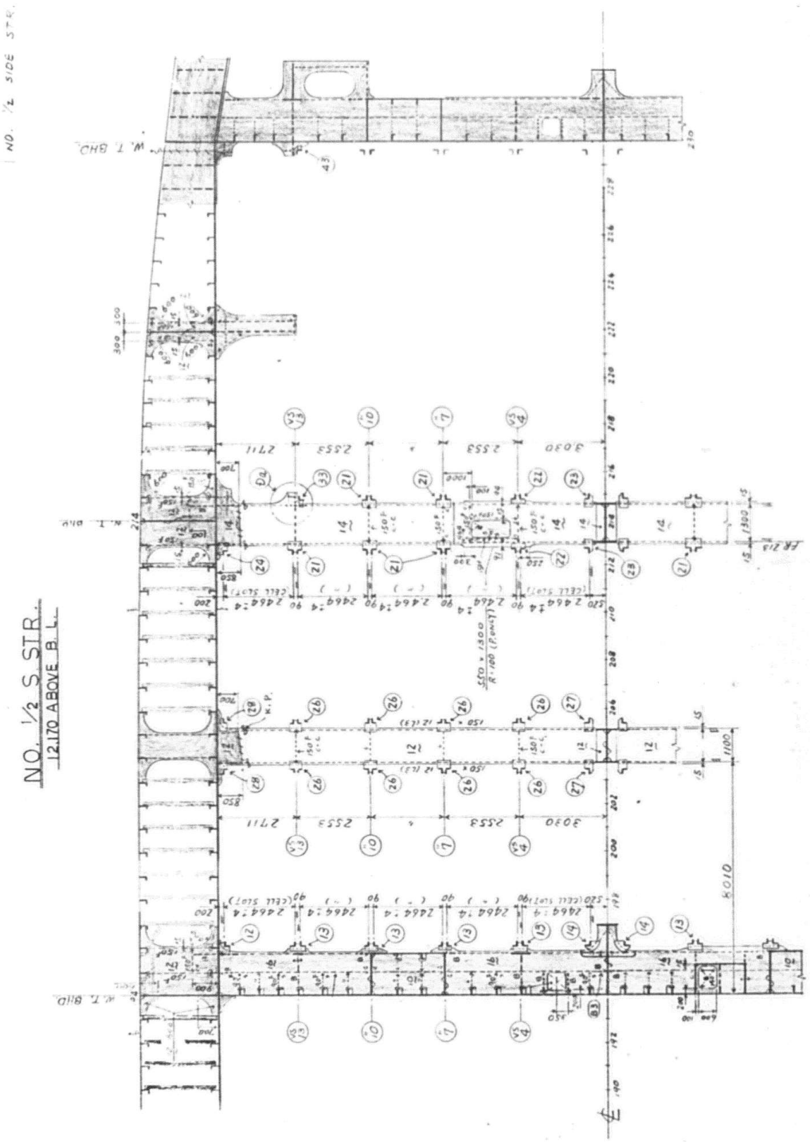
PASSAGE DECK PLAN

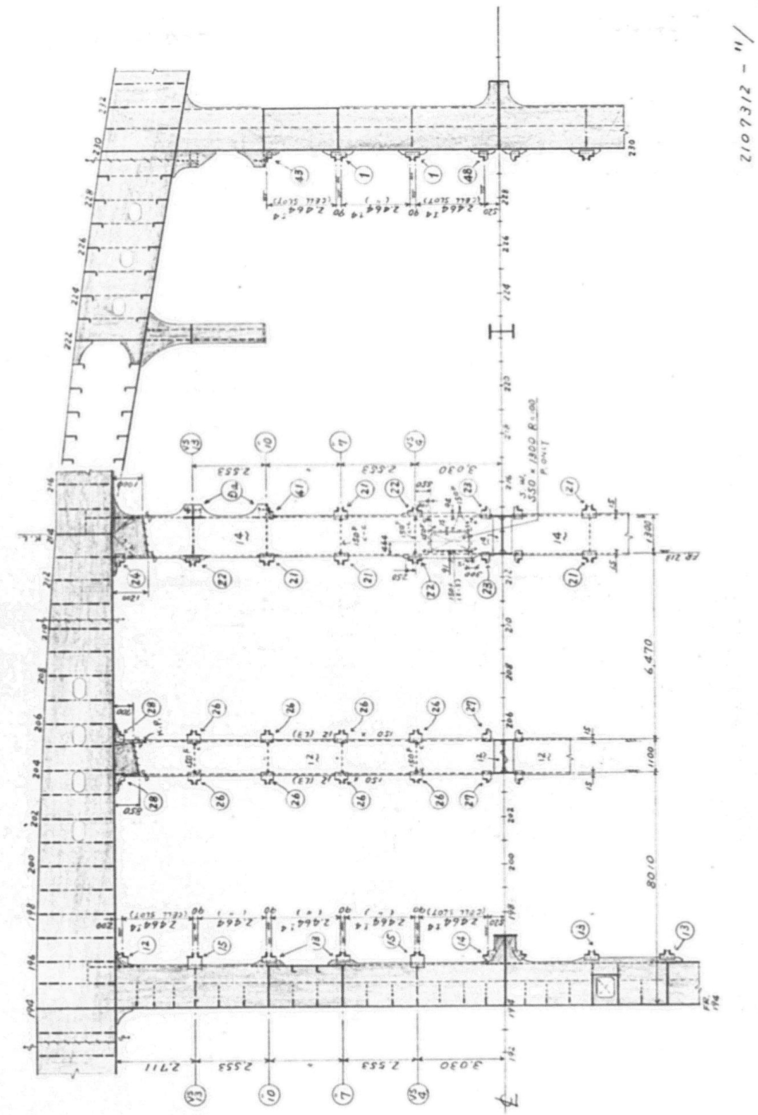
15,300 ABOVE B. L.

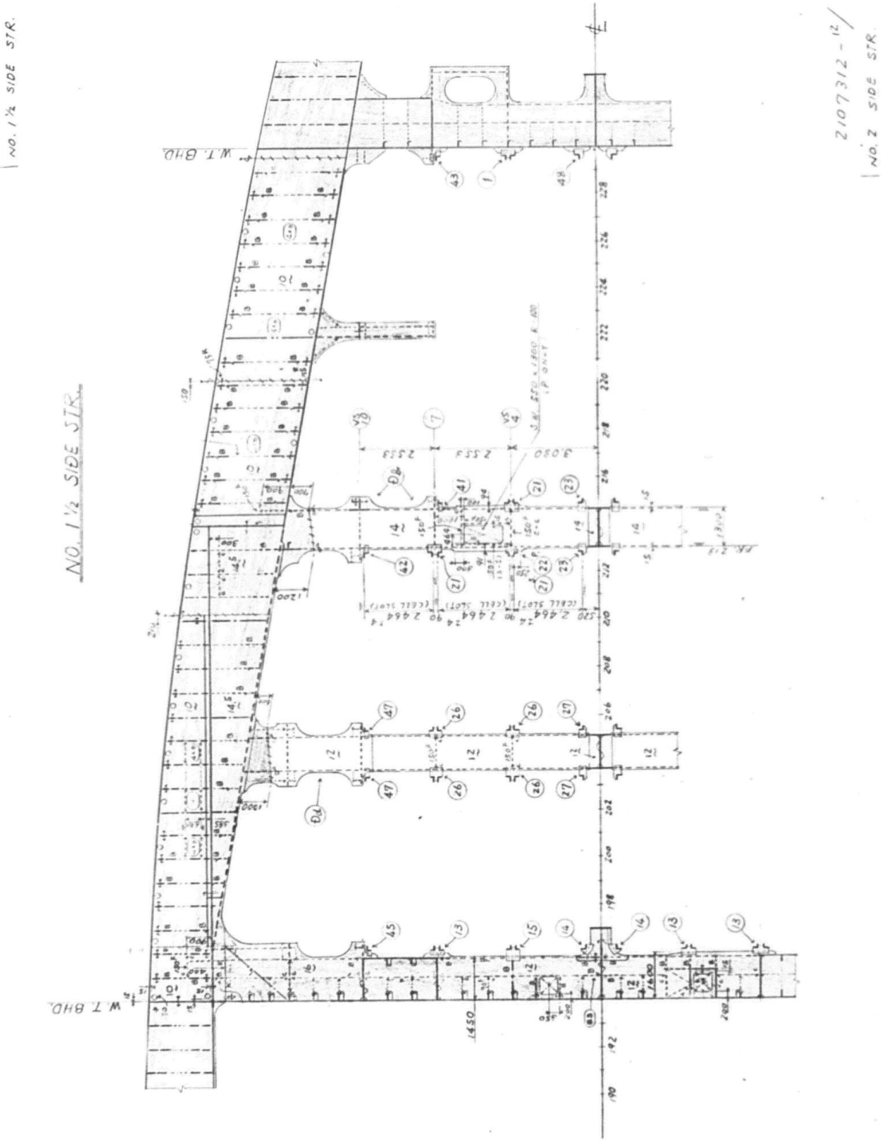


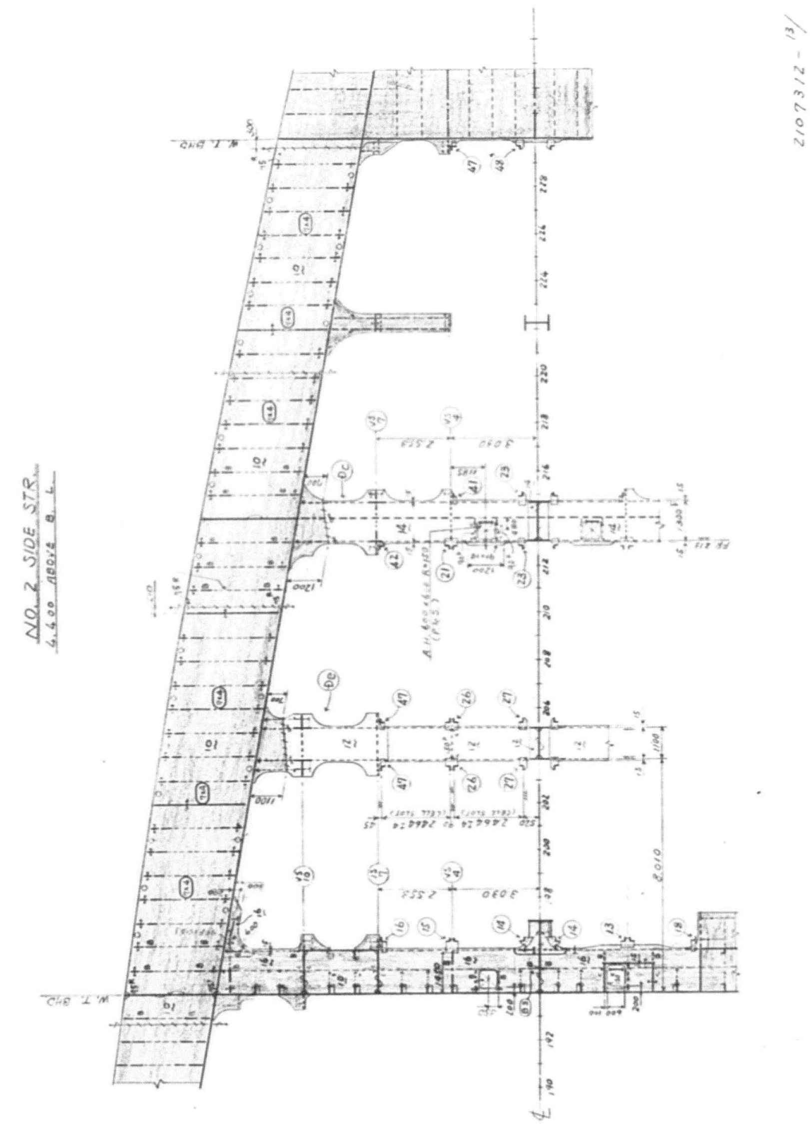
2107312 - 9/

559

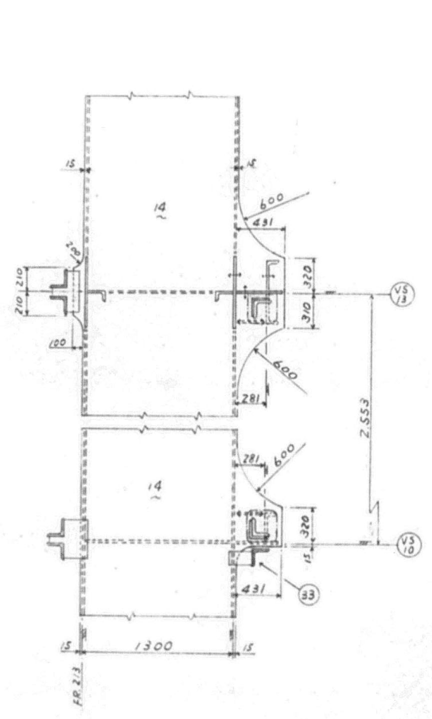

NO. 1/2 S STR.
12,170 ABOVE B.L.
Z107312 - 10/
NO. 1/2 SIDE STR.


NO. 1 SIDE STR.
Z107312 - 11/


NO. 1½ SIDE STR.
2107312-12
W.T. BHD.

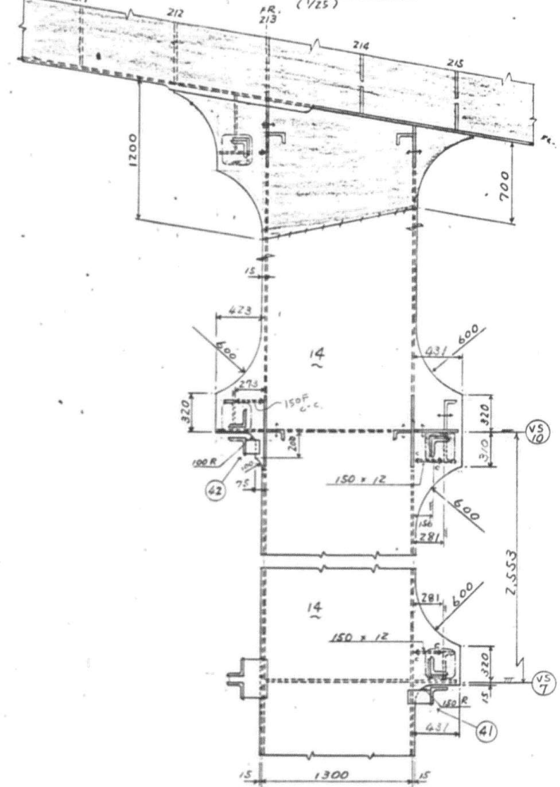

NO. 2 SIDE STR.
4,400 ABOVE B.L.
2107312-13
W.T. BHD.

DETAIL OF Da
(1/25)



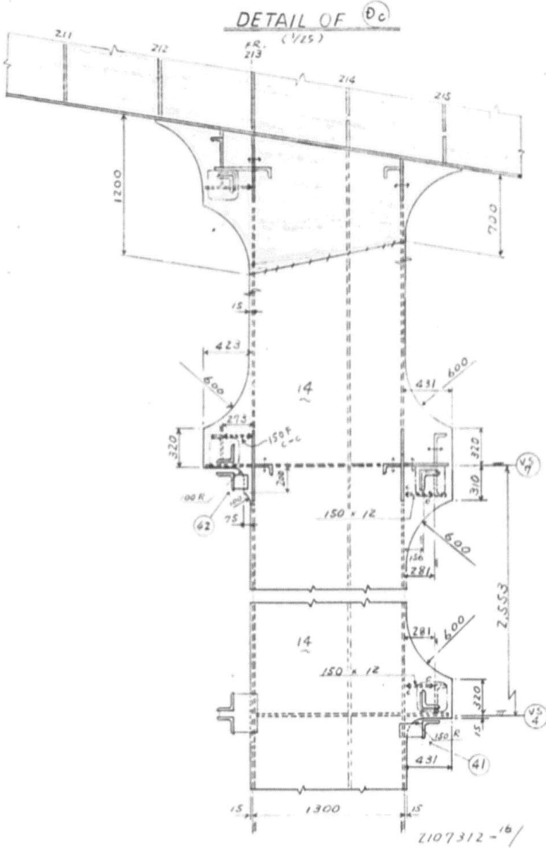
2107312 - 14/

DETAIL OF Db
(1/25)



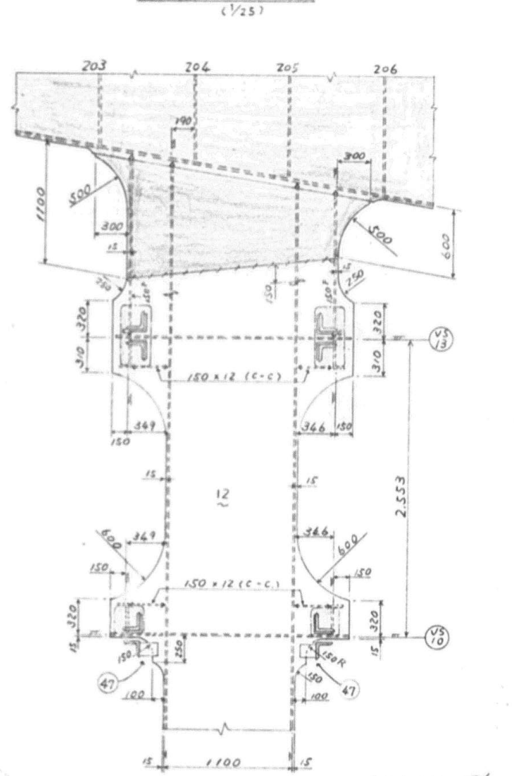
2107312 - 15/

DETAIL OF Dc
(1/25)



2107312 - 16/

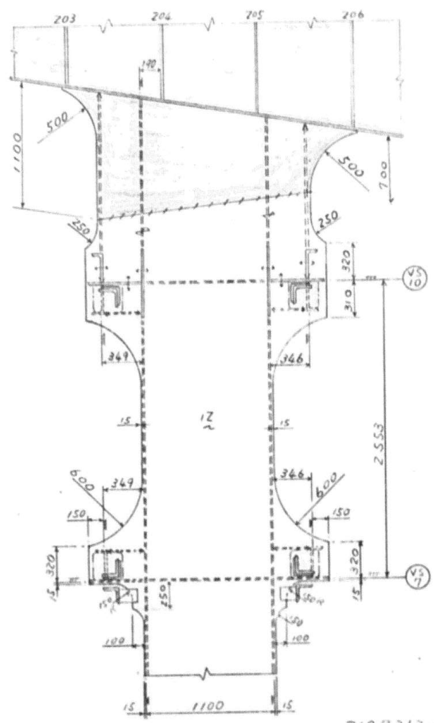
DETAIL OF Dd
(1/25)



2107312 - 17/

DETAIL OF Ⓔc

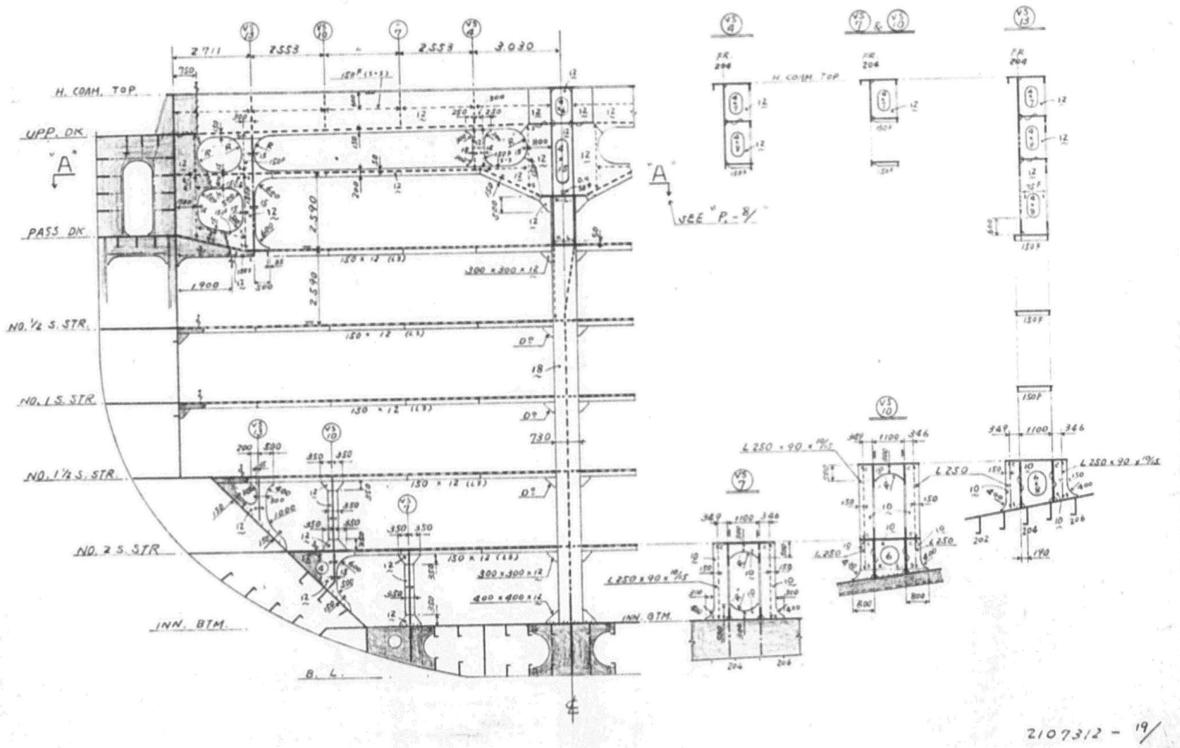
SIMILAR TO DETAIL Ⓔd EXCEPT SPECIFIED



2107312 - 18/

FR. 204

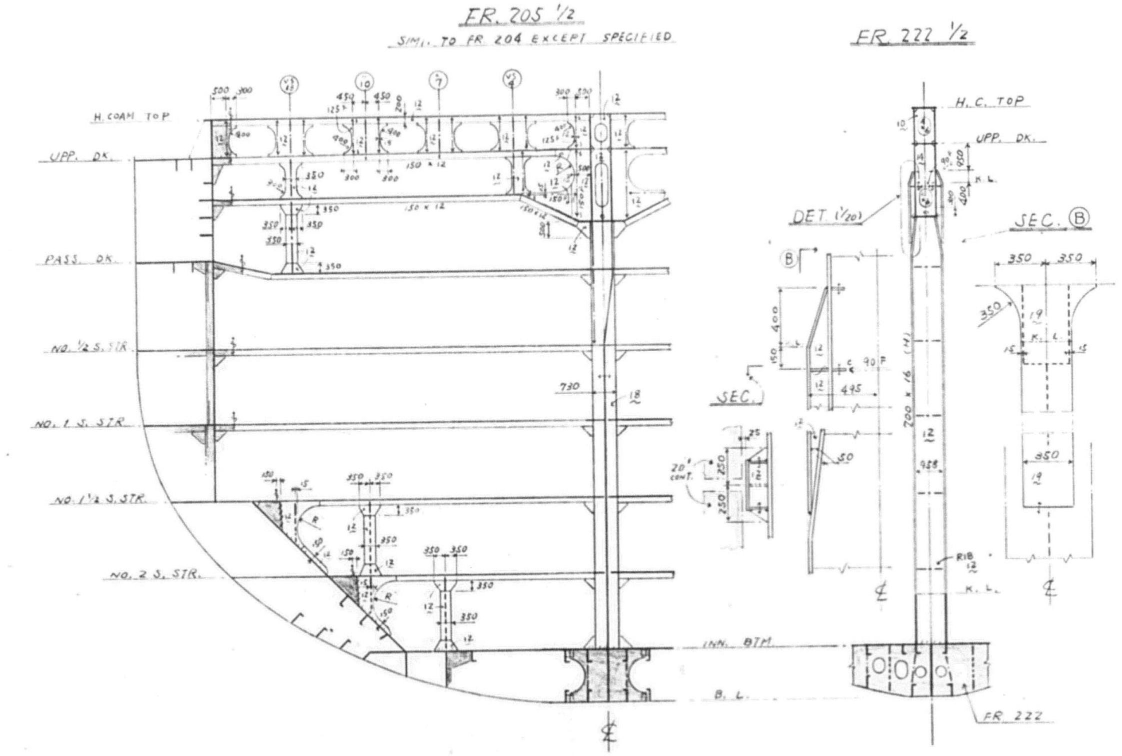
FR. 204



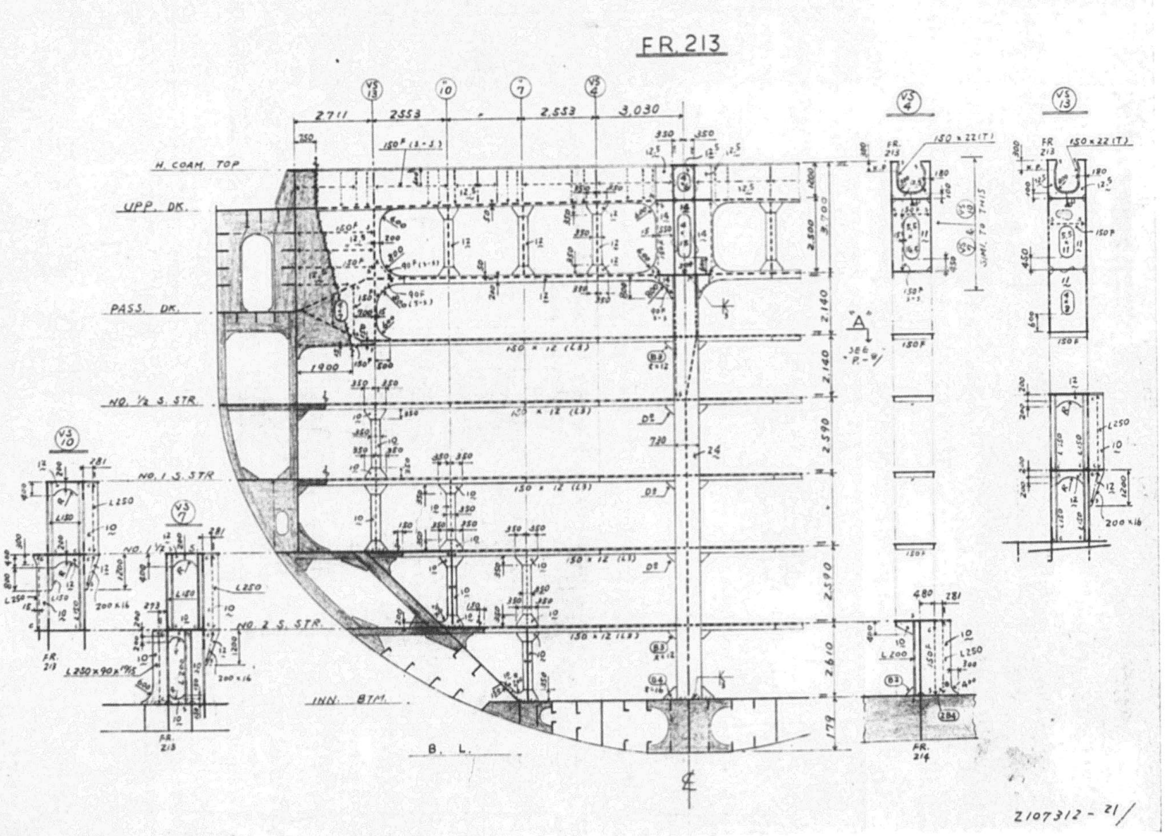
2107312 - 19/

563

FR. 205 ½
FR. 222 ½



Z107312 - 20/
FR. 213

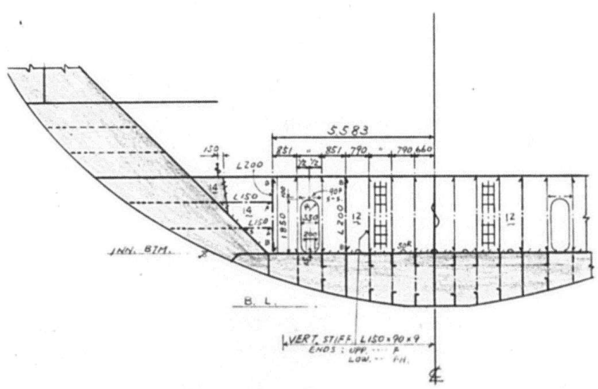


Z107312 - 21/

564

FR. 214

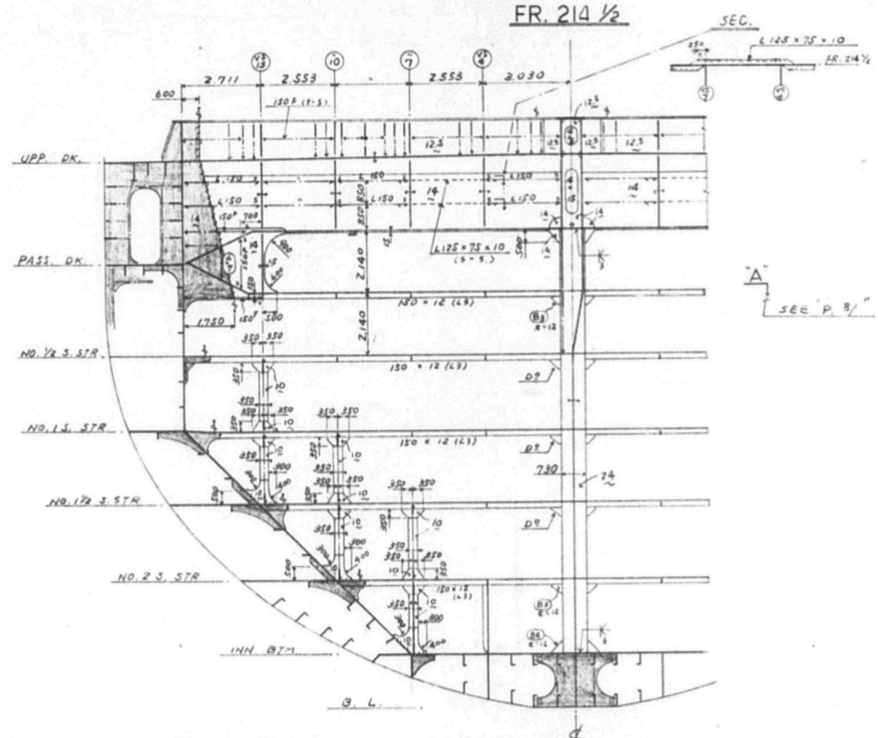
FR. 214



2107312 - 22/

FR. 214 ½

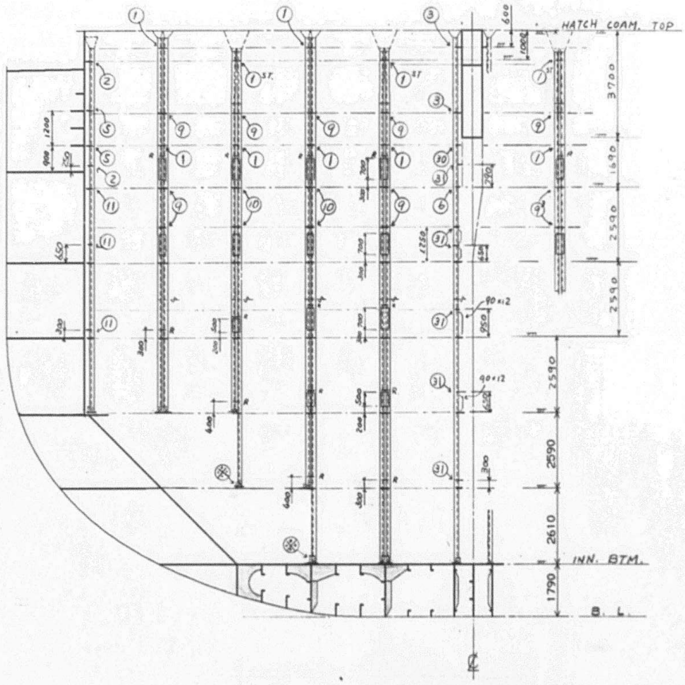
FR. 214 ½



2107312 - 23/

FR. 196 FORE

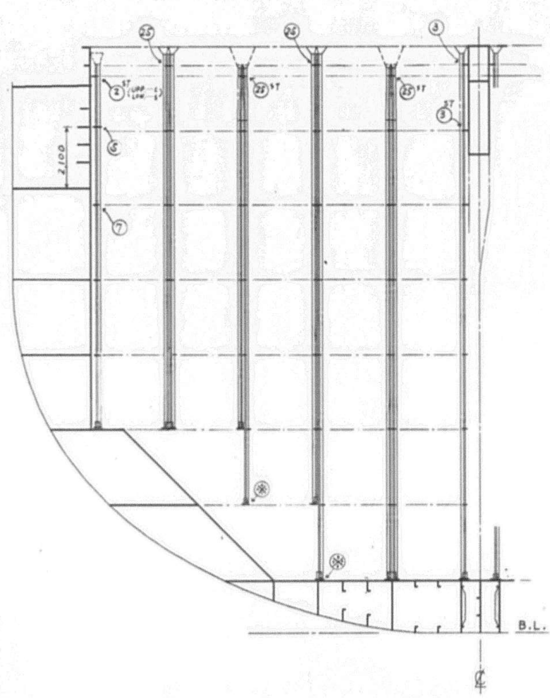
FR. 196 FORE



2107312 - 24/

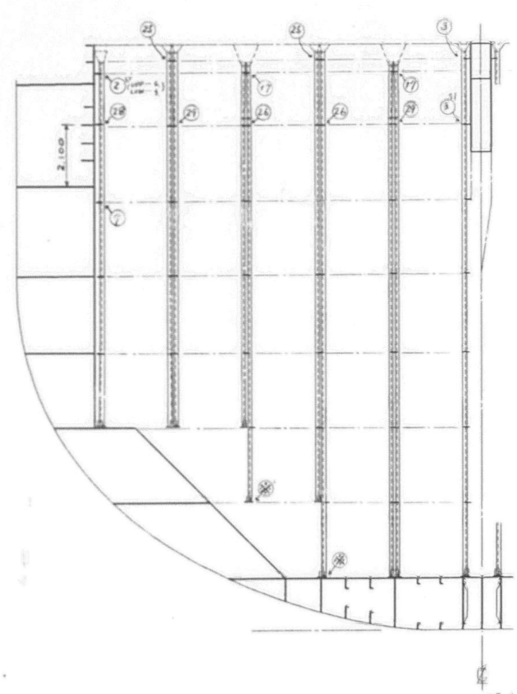
FR 204 AFT
FR 205 FORE

FR. 204 AFT



FR. 205 FORE

SIMILAR TO FR 204 EXCEPT SPECIFIED

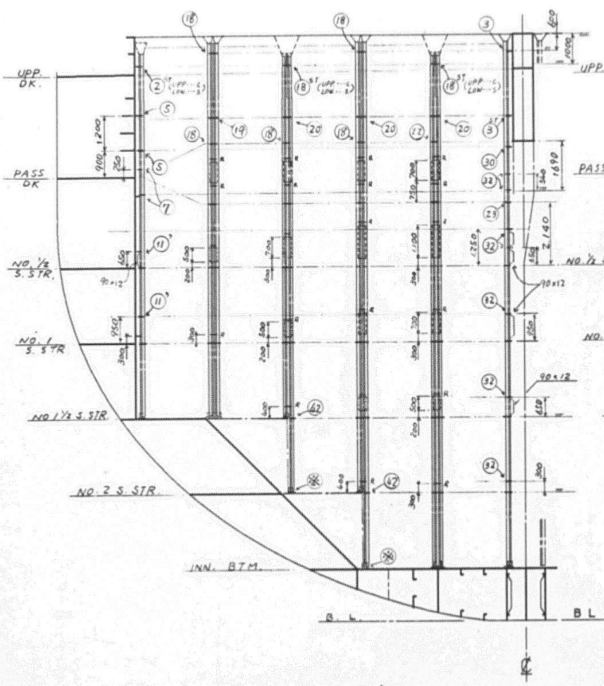


2107312 - 25/

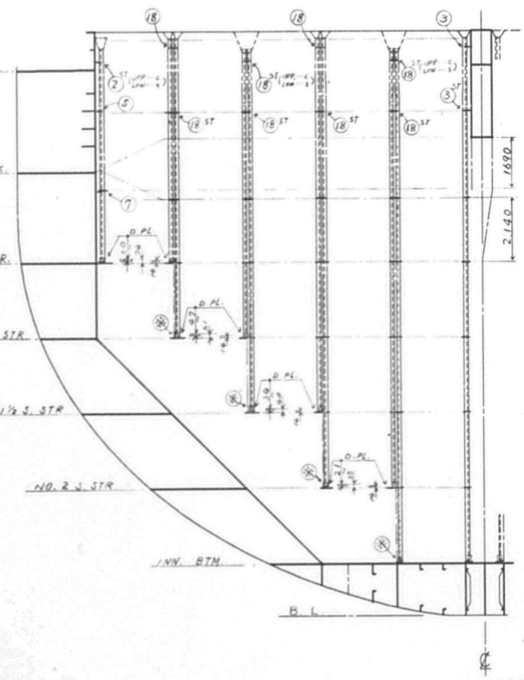
566

FR. 213 AFT
FR. 214 FORE

FR. 213 AFT



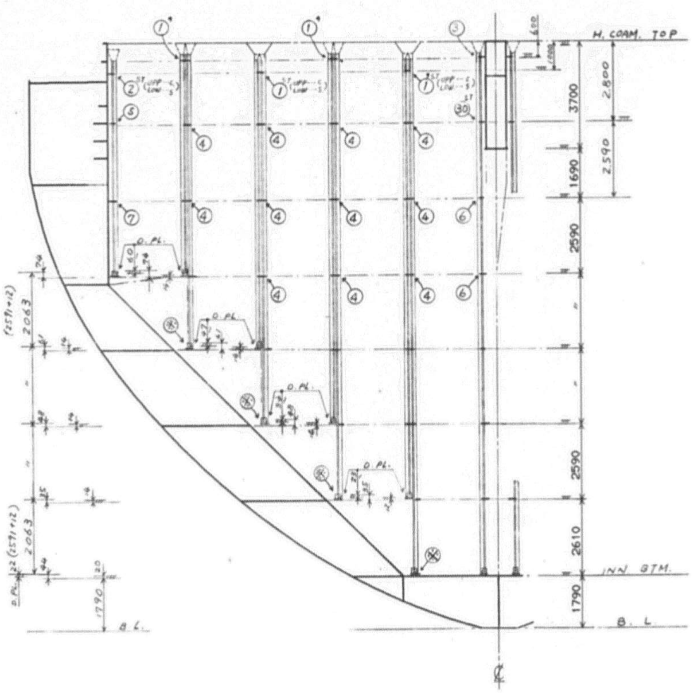
FR. 214 FORE



2107312 - 26/

FR. 230 AFT

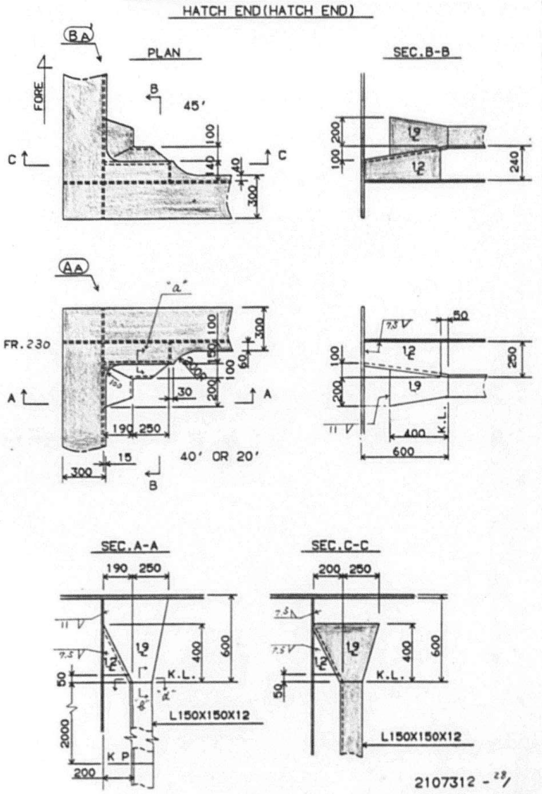
FR. 230 AFT



2107312 - 27/

G-1

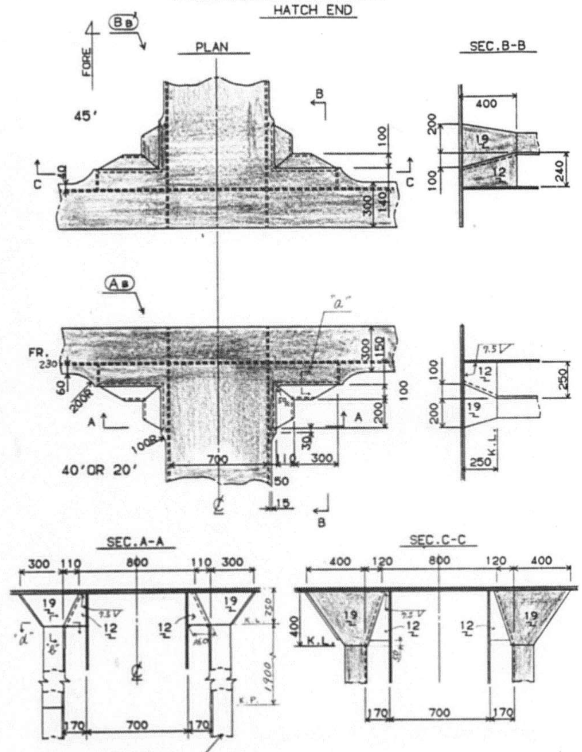
(AA) (BA) ENTRY GUIDE
HATCH END(HATCH END)



2107312 - 28/

G-6

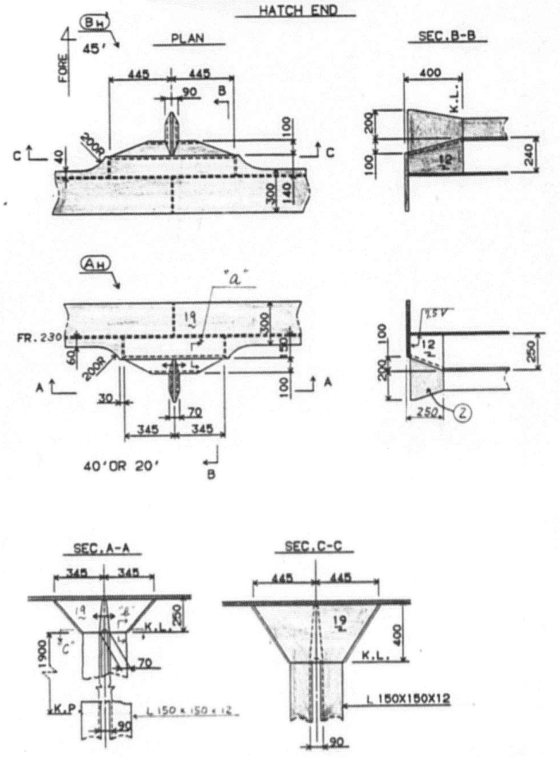
(AB) (BB) ENTRY GUIDE
HATCH END



2107312- 29/

G-2 1

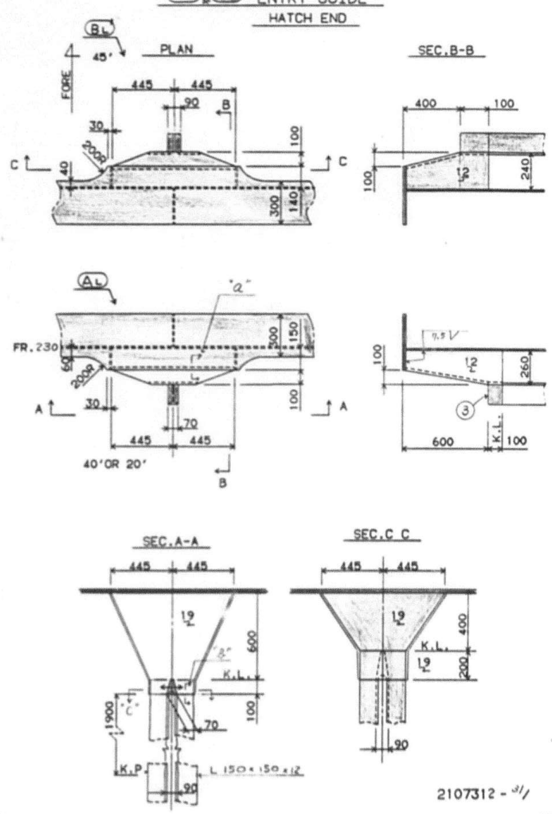
(AH) (BH) ENTRY GUIDE
HATCH END



2107312 - 30/

G-5 1

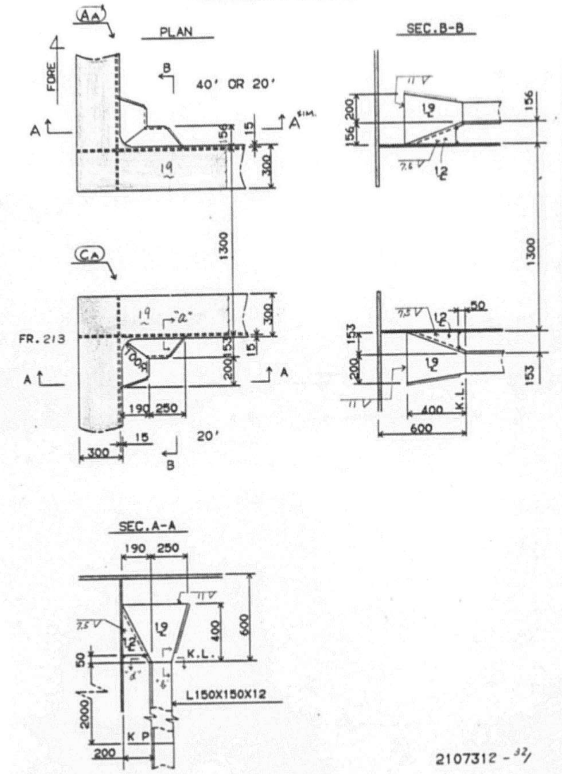
(AL) (BL) ENTRY GUIDE
HATCH END



2107312 - 31/

G-1

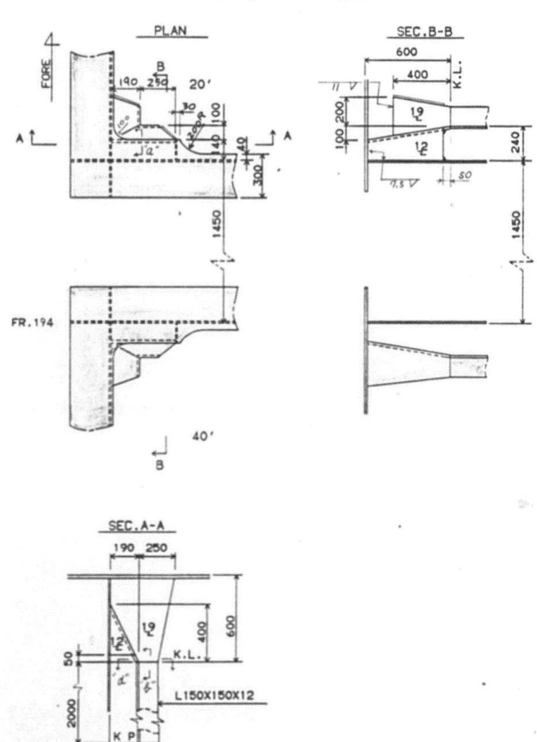
(CA) & (AA) ENTRY GUIDE
MID-HOLD (AT SIDE)



2107312 - 32/

G-11

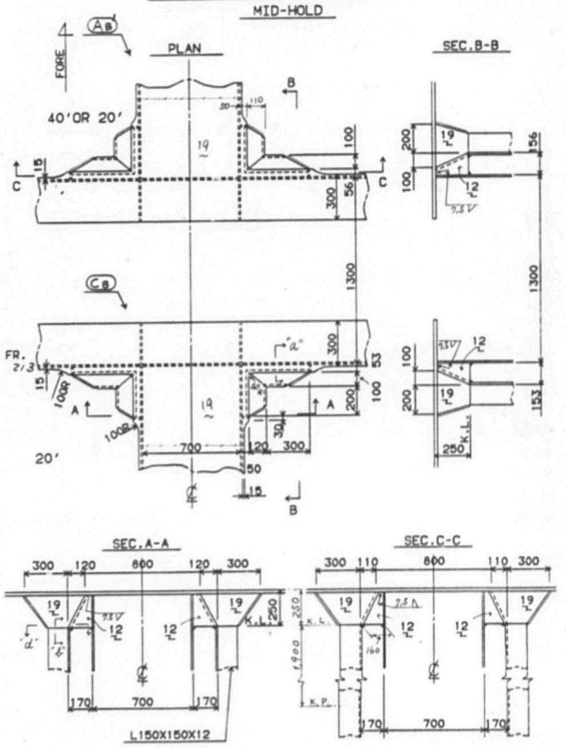
(CA) ENTRY GUIDE
HATCH END (AT SIDE)



2107312 - 33/

G-6

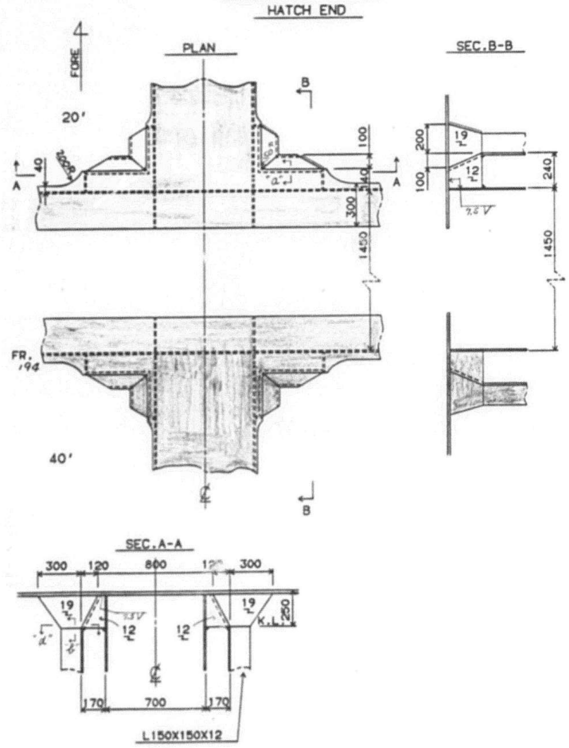
(CB) & (AB) ENTRY GUIDE
MID-HOLD



2107312 - 34/

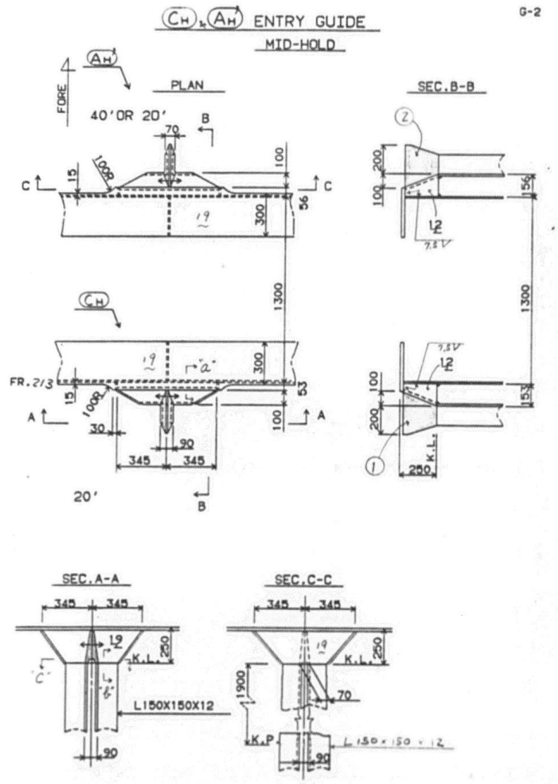
G-14

(CB) ENTRY GUIDE
HATCH END



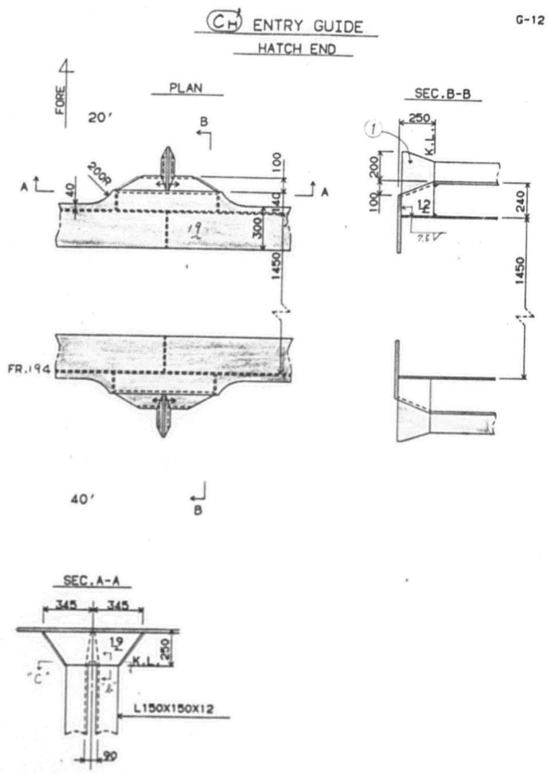
2107312 - 35/

G-2



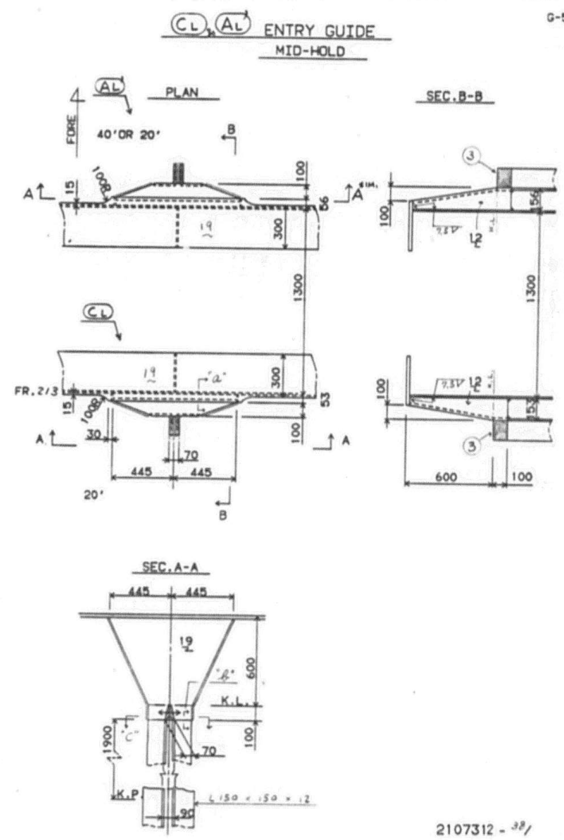
2107312 - 36/

G-12



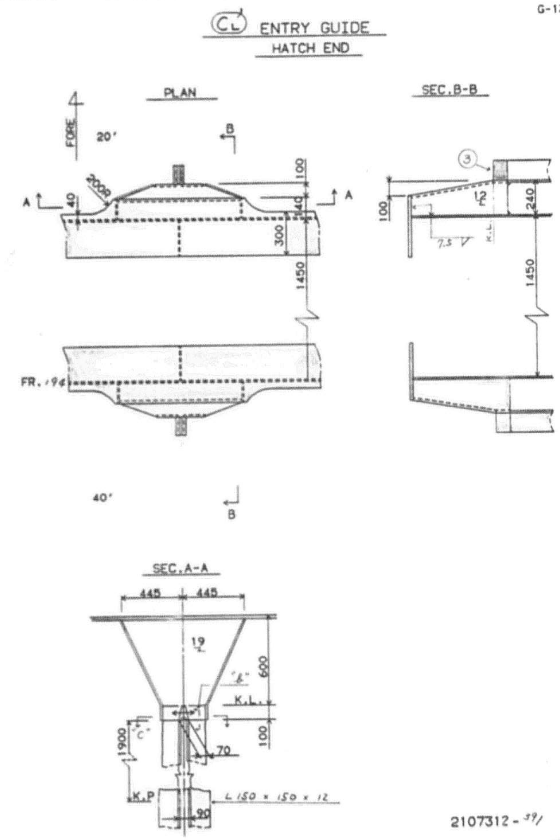
2107312 - 37/

G-5



2107312 - 38/

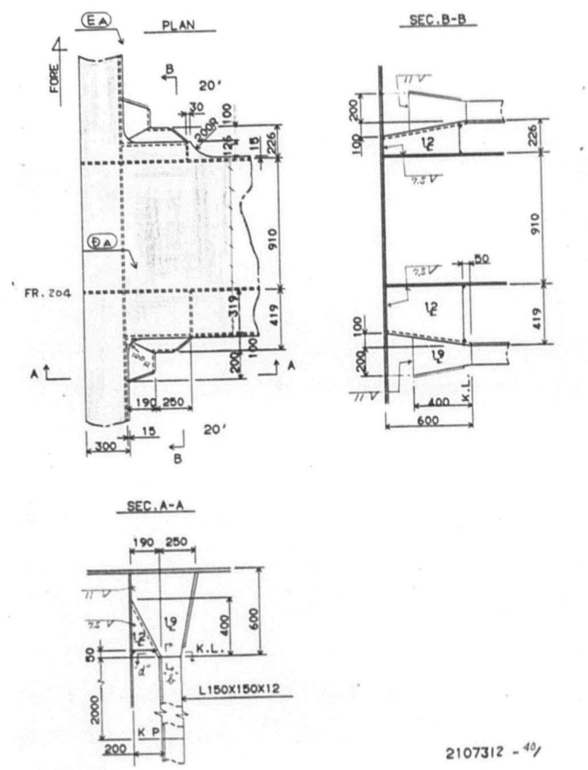
G-13



2107312 - 39/

G-15

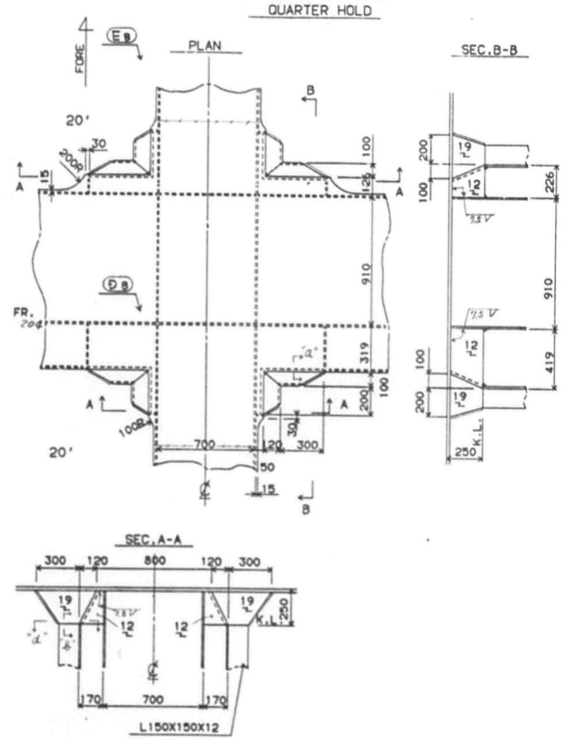
(DA),(EA) ENTRY GUIDE
QUARTER HOLD (AT SIDE)



2107312 - 40/

G-18

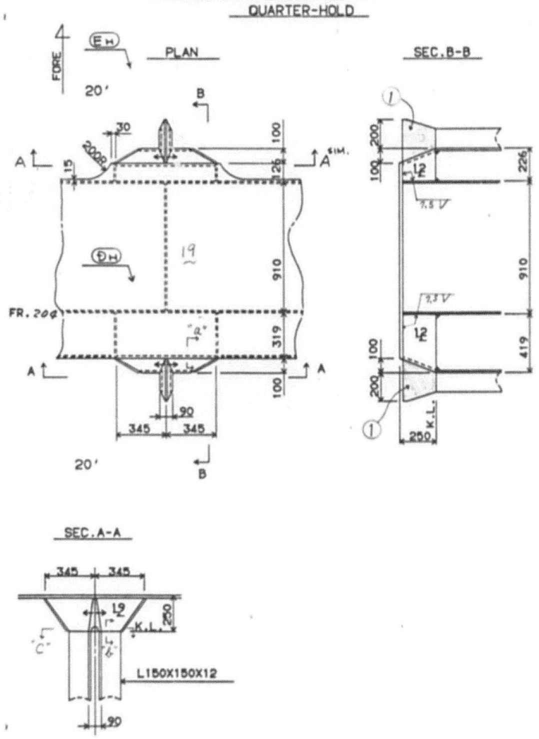
(DB) (EB) ENTRY GUIDE
QUARTER HOLD



2107312 - 41/

G-16

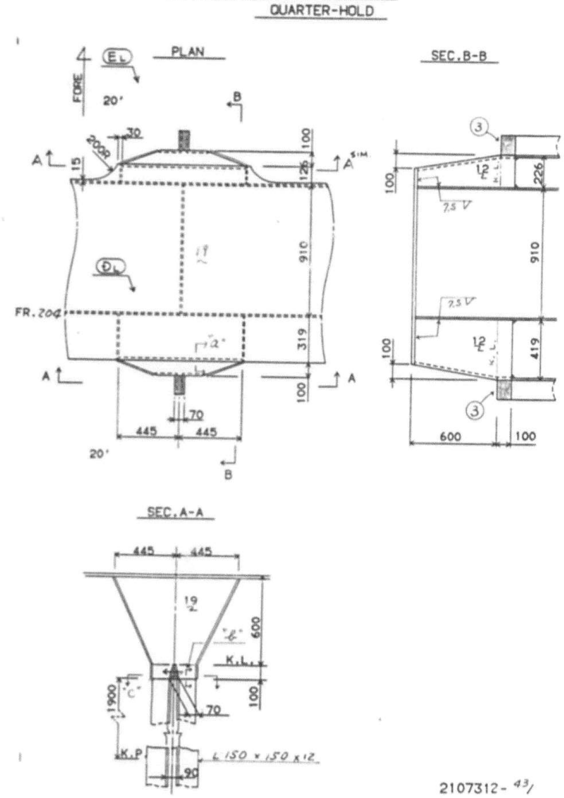
(DH),(EH) ENTRY GUIDE
QUARTER-HOLD



2107312 - 42/

G-17

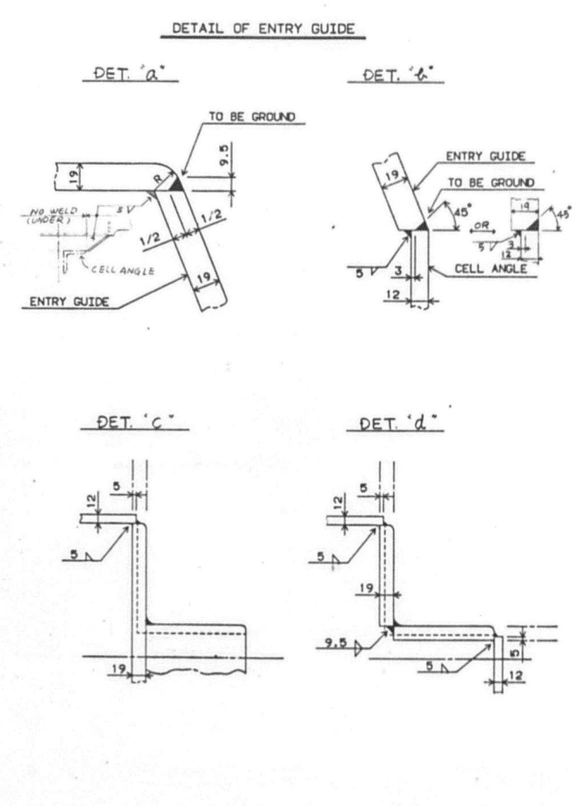
(DL),(EL) ENTRY GUIDE
QUARTER-HOLD



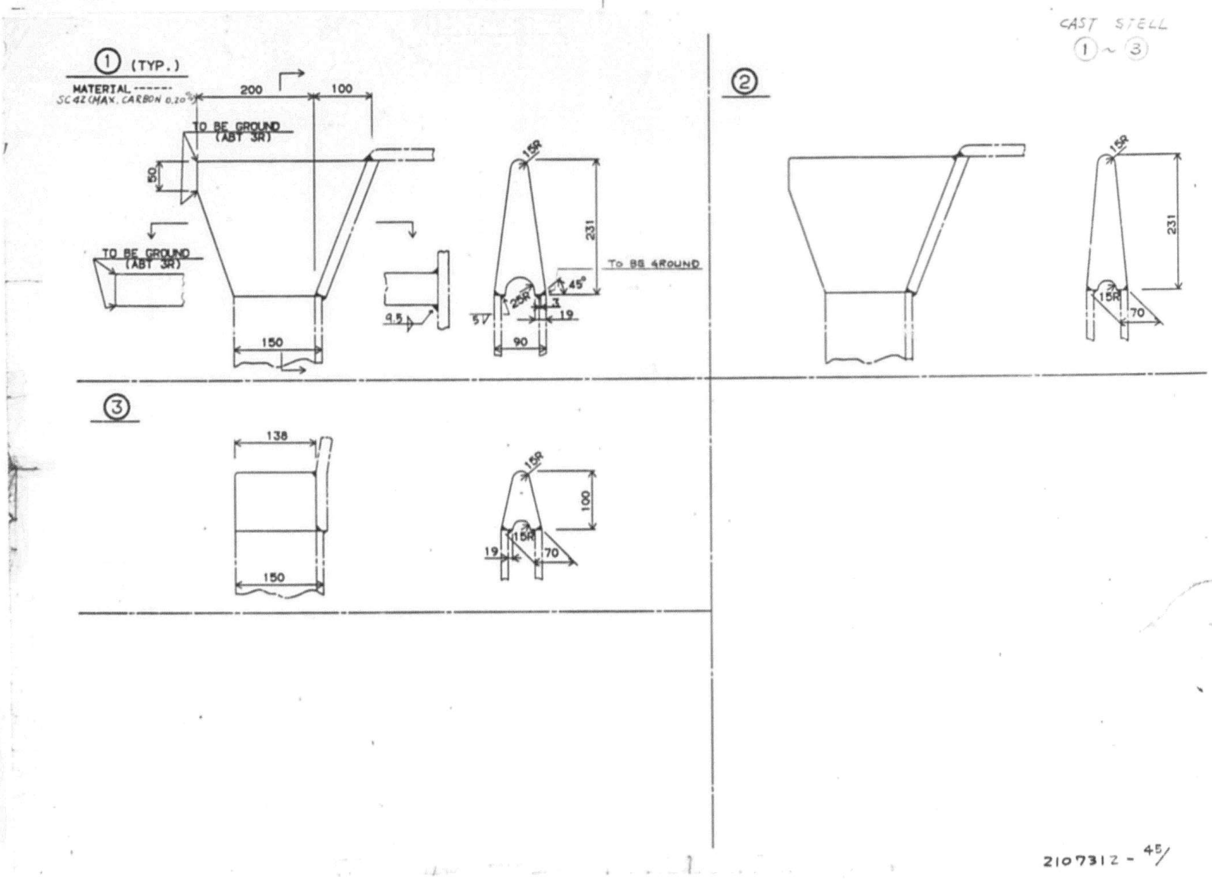
2107312 - 43/

571

DETAIL OF ENTRY GUIDE



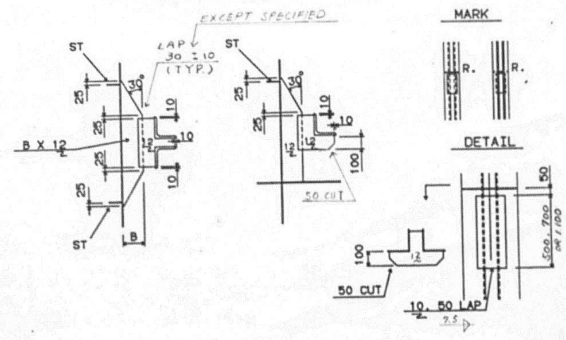
2107312-44/



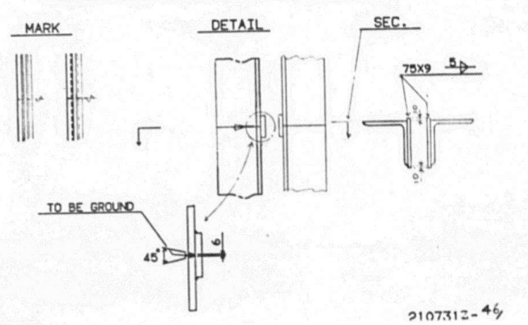
2107312-45/

TYPICAL CELL GUIDE RIB

1. WELD.---- 5 EXCEPT SPECIFIED.
2. LAP WELD---- 10 EXCEPT SPECIFIED.
3. ST MARK STIFF.---- 90 X 9 F.B. (ST MARK TO BE FITTED.)
   (BOTH ENDS CLIP EXCEPT SPECIFIED)



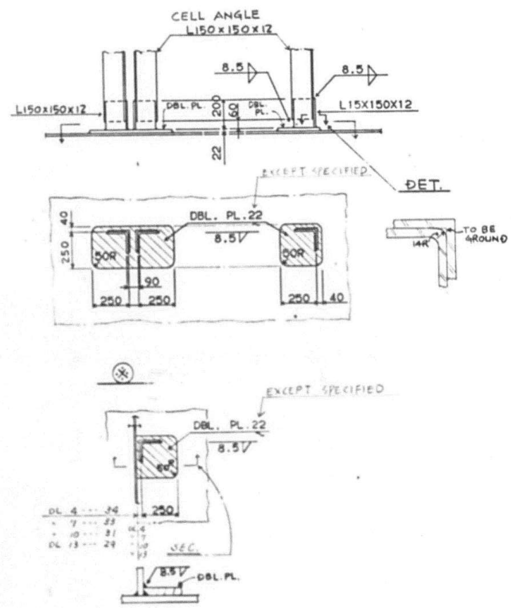
DETAIL OF CELL GUIDE CONNECTION



2107312-46/

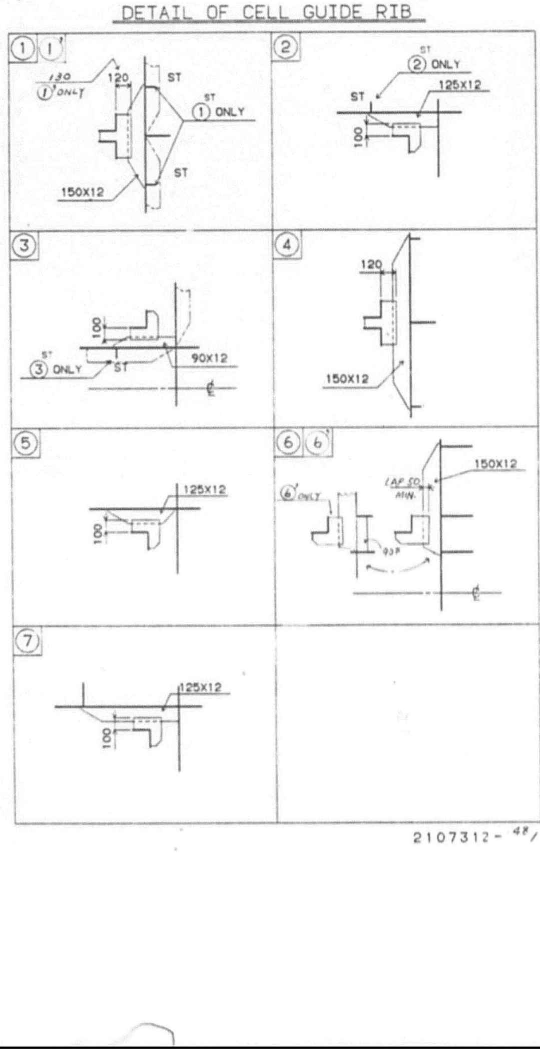
DETAIL OF LOW. END

TYPICAL

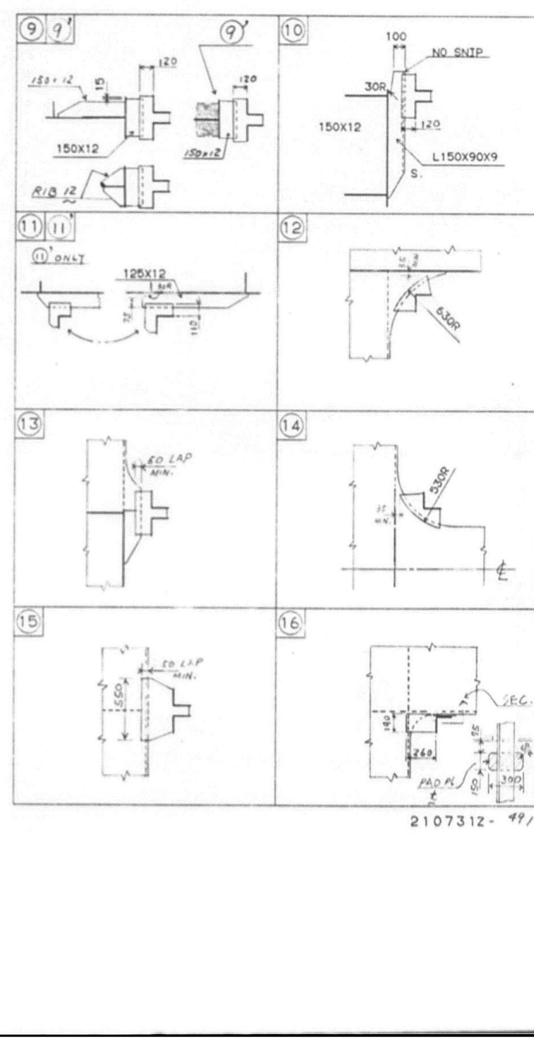


2107312-47/

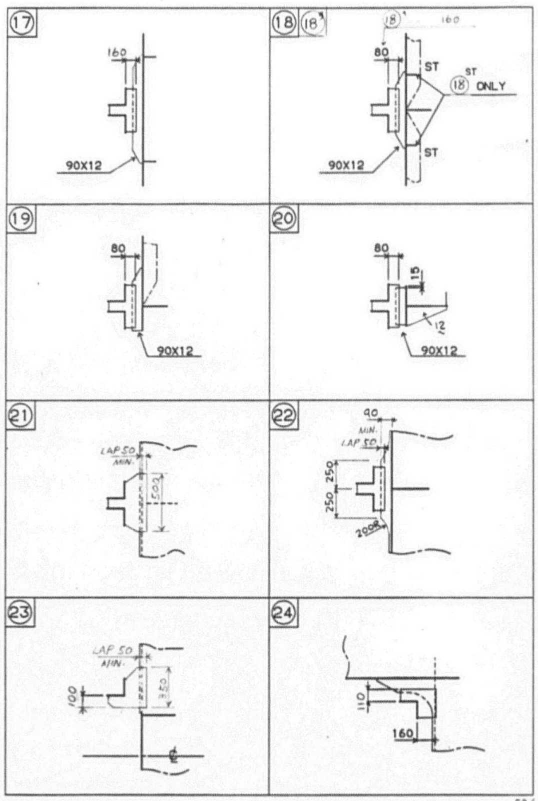
DETAIL OF CELL GUIDE RIB



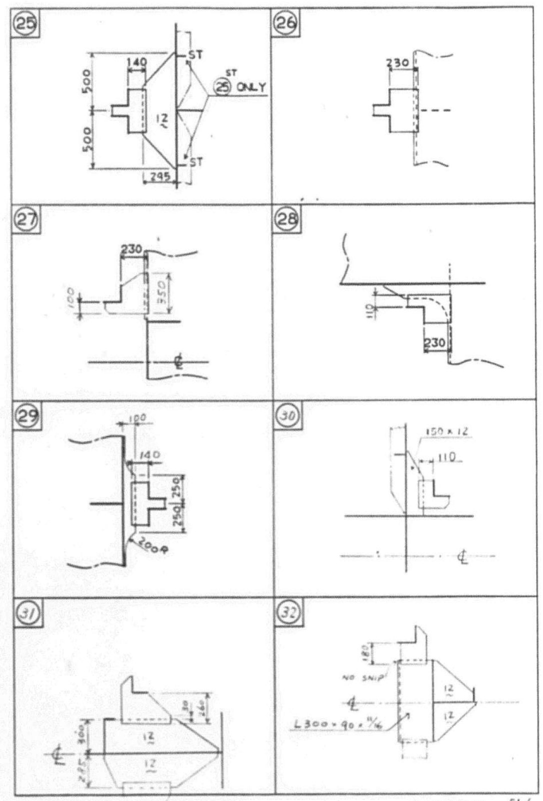
2107312-48/



2107312-49/

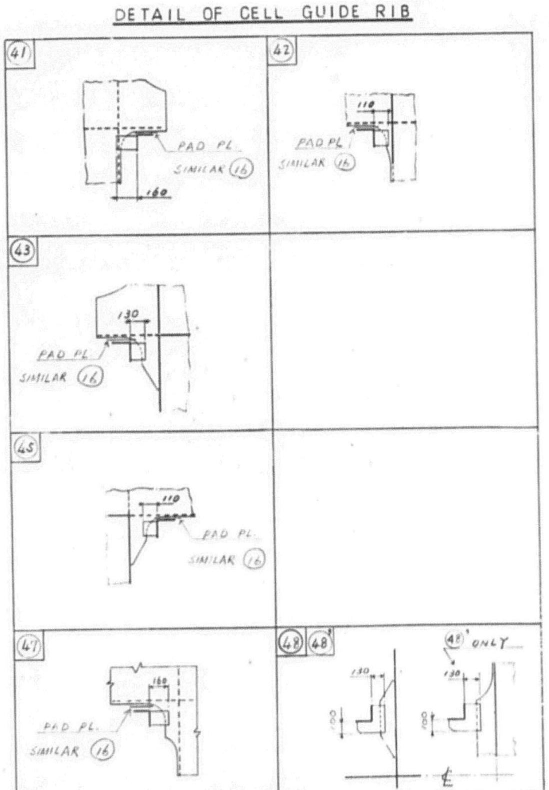


2107312 – S0/



2107312 – S1/

DETAIL OF CELL GUIDE RIB



2107312 – S2/S2

END

ROLL NO. 1